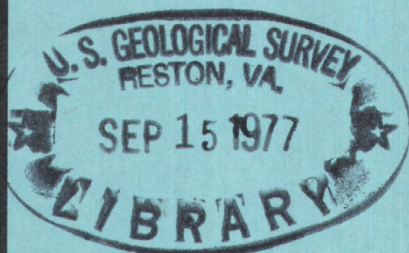


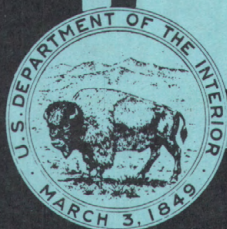
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Water Resources Data for Texas



Water Year 1976

Volume 3. Colorado River Basin, Lavaca River Basin,
Guadalupe River Basin, Nueces River Basin,
Rio Grande Basin and
Intervening Coastal Basins



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT TX-76-3

Prepared in cooperation with the State of Texas
and with other agencies

CALENDAR FOR WATER YEAR 1976

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Water Resources Data for Texas

Water Year 1976

Volume 3. Colorado River Basin, Lavaca River Basin,
Guadalupe River Basin, Nueces River Basin,
Rio Grande Basin and
Intervening Coastal Basins



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT TX-76-3

**Prepared in cooperation with the State of Texas
and with other agencies**

UNITED STATES DEPARTMENT OF THE INTERIOR

CECIL D. ANDRUS, Secretary

GEOLOGICAL SURVEY

V. E. McKelvey, Director

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U.S. Geological Survey
300 East 8th Street
Austin, Texas 78701

1977

Preface

This report was prepared by the U.S. Geological Survey in cooperation with the State of Texas and with other agencies by personnel of the Texas district of the Water Resources Division under the supervision of I. D. Yost, District Chief, and Alfred Clebsch, Jr., Regional Hydrologist, Central Region.

This report is one of a series issued State by State under the general direction of J. S. Cragwall, Jr., Chief Hydrologist, and G. W. Whetstone, Assistant Chief Hydrologist for Scientific Publications and Data Management.

Data for Texas are in three volumes as follows:

- Volume 1. Arkansas River basin, Red River basin, Sabine River basin, Neches River basin, Trinity River basin, and intervening Coastal basins
- Volume 2. San Jacinto River basin, Brazos River basin, San Bernardo River basin, and intervening Coastal basins
- Volume 3. Colorado River basin, Lavaca River basin, Guadalupe River basin, Neches River basin, Rio Grande basin, and intervening Coastal basins

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4. Title and Subtitle Water Resources Data for Texas, 1976, Volume 3; Colorado River, Lavaca River, Guadalupe River, Nueces River, Rio Grande basin and intervening Coastal basins		5. Report Date July 1977	
7. Author(s)		6.	
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15. Supplementary Notes Prepared in cooperation with the State of Texas and with other agencies.			
16. Abstracts Surface-water data for the 1976 water year for Texas are presented in three volumes, appropriately identified as to content by river basins. Data in each volume consist of records of stage, discharge, and water quality of streams and canals; and stage, contents, and water quality of lakes and reservoirs. Also included are crest-stage and flood-hydrograph partial-record stations, reconnaissance partial-record stations, and low-flow partial-record stations. Additional water data were collected at various sites, not part of the systematic data collection program, and are published as miscellaneous measurements. Records for a few pertinent stations in bordering States are also included. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State and Federal agencies in Texas.			
17. Key Words and Document Analysis. 17a. Descriptors *Texas, *Hydrologic data, *Surface water, *Water quality, Flow rate, Gaging stations, Lakes, Reservoirs, Chemical analyses, Sediments, Water temperatures, Sampling sites, Water analyses			
17b. Identifiers/Open-Ended Terms			
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WATER RESOURCES DATA FOR TEXAS, 1976

VOLUME 3 COLORADO, LAVACA, GUADALUPE, NUECES RIVERS, RIO GRANDE, AND INTERVENING COASTAL BASINS

INTRODUCTION

Surface-water data for Texas for the 1976 water year are presented in three volumes, appropriately identified by river basins. Data in each volume consist of records of stage, discharge, and water quality of streams and canals; and stage, contents, and water quality of lakes and reservoirs. Records for a few pertinent stations in bordering states are also included. These data represent that part of the National Water Data System operated by the U.S. Geological Survey in cooperation with State and Federal agencies in Texas.

Records of discharge (or stage) of streams and contents (or stage) of lakes and reservoirs were first published in a series of Geological Survey Water-Supply Papers entitled, "Surface Water Supply of the United States." Through water year 1960, these water-supply papers were in an annual series and then in a 5-year series for 1961-65 and 1966-70. Records of chemical quality, water temperature, and suspended sediment were published from 1941 to 1971 in an annual series of water-supply papers entitled, "Quality of Surface Waters of the United States."

For water years 1961 through 1974, streamflow data were released by the Geological Survey in annual reports on a State-boundary basis. Water-quality records for water years 1964 through 1974 were similarly released either in separate reports or in conjunction with streamflow records. Beginning with the 1975 water year, water data for streamflow and water quality are published as an official Survey report on a State-boundary basis. These official Survey reports carry an identification number consisting of the two letter State abbreviation, the last two digits of the water year, and the volume number. For example, this report is identified as "U.S. Geological Survey Water-Data Report TX-76-3." Water-Data reports are for sale by the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia 22161.

COOPERATION

Organizations that assisted in the collection of data in this report through cooperative agreements with the Geological Survey in 1976 are:

City of Austin, Charles B. Graves, Jr., Director, Engineering Department.

City of Dallas, Monroe McCorkle, Director, Public Works Department.

City of Fort Worth, J. M. Graham, Director of Public Works.

City of Houston, E. B. Cape, Director, Department of Public Works.

County of Dallas, Judson Shook, Director of Public Works.

Pecos River Commission, Horace Babcock, Federal Representative and Chairman; R. B. McGowen, Jr., Commissioner for Texas, and John B. Walker, Commissioner for New Mexico.

Sabine River Compact Administration, William H. Robinson, Federal Representative and Chairman; Raymond J. Palmer and H. B. Meyers for Louisiana; and J. M. Syler and George M. Smith for Texas.

Texas Department of Highways and Public Transportation, B. L. DeBerry, Engineer-Director.

Texas Water Development Board, James M. Rose, Executive Director; A. L. Black, Chairman; Robert B. Gilmore, Vice-Chairman; Milton T. Potts, W. E. Tinsley, John H. Garrett, and George W. McCleskey, Members.

Assistance in the form of funds or services was given by the following Federal agencies:

Corps of Engineers, U.S. Army.

International Boundary and Water Commission, Department of State.

Soil Conservation Service, Department of Agriculture.

Assistance in the form of funds or services was rendered by the following organizations through the Texas Water Development Board:

The cities of Abilene, Alice, Arlington, Austin, Brady, Cleburne, Clyde, Corpus Christi, Dallas, El Paso, Gainesville, Graham, Houston, Lampasas, San Angelo, and Wichita Falls; Athens Municipal Water Authority; Bexar, Medina, and Atascosa Counties Water Control and Improvement District No. 1; Bistone Municipal Water Supply District; Brazos River Authority; Chocolate Bayou Land and Water Company; Colorado River Municipal Water District; Dallas County; Dallas Power and Light Company; Dow Chemical Company; Edwards Underground Water District; Franklin County Water District; GMA Development Corporation; Greenbelt Municipal and Industrial Water Authority; Guadalupe-Blanco River Authority; Harris County Flood Control District; Houston Lighting and Power Company; Lone Star Steel Company; Lower Colorado River Authority; Lower Neches Valley Authority; Palo Pinto County Municipal Water District; Red Bluff Water Power Control District; Reeves County Water Improvement District No. 1; Richmond Rice Association; Sabine River Authority of Texas; San Antonio City Public Service Board; San Antonio City Water Board; San Antonio River Authority; San Jacinto River Authority; Tarrant County Water Control and Improvement District No. 1; Texas Electric Service Company; Texas Utilities Services, Inc.; Tom Green County Water Control and Improvement District No. 1; Trinity River Authority; Upper Guadalupe River Authority; Upper Neches River Municipal Water Authority; West Central Texas Municipal Water District; White River Municipal Water District; Wichita County Water Improvement District No. 2; and Wood County.

HYDROLOGIC CONDITIONS

Large variations in rainfall and runoff characterize the usual hydrologic conditions in Texas. In the east, streams are usually deep with wide alluvial flood plains, and streamflow is generally perennial. Normal annual rainfall exceeds 50 inches in the extreme east and annual runoff may average as much as 15 inches. In the west, streams are generally of the arroyo type and streamflow is highly ephemeral. Normal annual rainfall is less than 8 inches in the extreme west and annual runoff averages less than 0.1 inch in many areas.

During the 1976 water year, annual runoff over the State was generally deficient in the west and central parts and near normal in all other parts. Conservation storage in a selected group of 63 reservoirs, with a combined conservation capacity of 30,000,000 acre-ft, decreased from 88 percent of capacity in September 1975, to 87 percent at the end of September 1976.

At the beginning of the 1976 water year, streamflow was in the median range except for deficient flows (in the lower 25 percent of record) in the Panhandle and in a small area near San Angelo. During November the area of deficient streamflow spread to a wide band across the northern part of the State with other areas remaining about the same. In December the area of deficient streamflow spread into central Texas, but a small area near San Angelo showed excessive flow (in the upper 25 percent of record).

The trend established in December continued into February 1976 with the area of deficient streamflow covering north, central, and most of east Texas. Streamflow in the remainder of the State remained near normal.

Streamflow in east Texas increased to near normal in March. Thunderstorms during April relieved drought conditions in west Texas and produced locally heavy runoff in the central and northeastern parts of the State.

Streamflow in the panhandle remained deficient for May, but was near normal in the remainder of the State. Locally intense rainfall in mid-June caused flash flooding in the Houston area and in the South Concho River in the west. Locally heavy showers in July in the lower half of the State caused excessive streamflow while the Panhandle remained deficient in streamflow.

This trend was reversed in August with a return to median and deficient streamflow in the southern half of the State; an exception being continued excessive streamflow in the upper Guadalupe River basin.

September ended the water year with near normal streamflow over the State except in the Panhandle where streamflow was deficient and in the lower Pecos, Devils, and Nueces River basins streamflow was excessive.

DEFINITION OF TERMS

Terms related to streamflow, water quality, and other hydrologic data, as used in this report, are defined below. See also the table for converting English units to International System of units (SI) on the inside of the back cover.

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet, about 326,000 gallons, or 1,233 cubic meters.

Algae are mostly aquatic, single-celled, colonial, or multi-celled plants, containing chlorophyll and lacking roots, stems, and leaves.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35°C. In the laboratory these bacteria are defined as the organisms which produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35°C \pm 1.0°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 ml of sample.

Fecal coliform bacteria are bacteria that are present in the intestines or feces of warm-blooded animals. They are often used as indicators of the sanitary quality of the water. In the laboratory they are defined as all organisms which produce blue colonies within 24 hours when incubated at 44.5°C \pm 0.2°C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 ml of sample.

Fecal streptococcal bacteria are bacteria found in intestines of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at 35°C \pm 1.0°C on M-enterococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 ml of sample.

Bed material is the unconsolidated material of which a streambed, lake, pond, reservoir, or estuary bottom is composed.

Biochemical oxygen demand (BOD) is a measure of the quantity of dissolved oxygen, in milligrams per liter, necessary for the decomposition of organic matter by microorganisms, such as bacteria.

Biomass is the amount of living matter present at any given time, expressed as the mass per unit area or volume of habitat.

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in g/m³ (grams per cubic meter), and periphyton and benthic organisms in g/m² (grams per square meter).

Dry mass refers to the mass of residue present after drying in an oven at 60°C for zooplankton and 105°C for periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry mass values are expressed in the same units as ash mass.

Organic mass or volatile mass of the living substance is the difference between the dry mass and ash mass, and represents the actual mass of the living matter. The organic mass is expressed in the same units as for ash mass and dry mass.

Wet mass is the mass of living matter plus contained water.

Biomass pigment ratio is the ratio of organic mass in mg/m^2 (milligrams per square meter) to the mass of chlorophyll a, in mg/m^2 .

Bottom material: See Bed material.

Cells/volume refers to the number of cells of any organism which is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample, usually ml (milliliters) or l (liters).

Cfs-day is the volume of water represented by flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-ft, about 646,000 gallons or 2,447 cubic meters.

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water, and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with natural water color or with carbonaceous organic pollution from sewage or industrial wastes.

Chlorophyll refers to the green pigments of plants. Chlorophyll a and b are the two most common pigments in plants.

Color unit is produced by one milligram per liter of platinum in the form of the chloroplatinate ion. Color is expressed in units of the platinum-cobalt scale.

Coliform organisms are a group of bacteria used as an indicator of the sanitary quality of water. The number of coliform colonies per 100 ml of sample was determined by the immediate-incubation membrane-filter method.

Contents is the volume of water in a reservoir or lake, and unless otherwise indicated is computed on the basis of a level pool. The computation does not include bank storage.

Control designates a feature downstream from a gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, an artificial structure, or a uniform cross section over a long reach of the channel.

Cubic foot per second per square mile (CFSM) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

Cubic foot per second (FT³/S, ft³/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second. This rate is equivalent to approximately 7.48 gallons per second, 448.8 gallons per minute, or 0.02832 cubic meters per second.

Discharge is the volume of water (or more broadly, volume of fluid plus suspended sediment), that passes a given point within a given period of time.

Mean discharge (MEAN) is the arithmetic mass of individual daily mean discharges during a specified period.

Instantaneous discharge is the discharge at a particular instant of time.

Dissolved refers to the amount of substance present in true chemical solution. In practice, however, the term includes all forms of substance that will pass through a 0.45-micrometer membrane filter, and thus may include some very small (colloidal) suspended particles. Analyses are performed on filtered samples.

Diversity index is a numerical expression of evenness of distribution of aquatic organisms. The formula for diversity index is:

$$\bar{d} = - \sum_{i=1}^s \frac{n_i}{n} \log_2 \frac{n_i}{n}$$

Where n_i is the number of individuals per taxon, n is the total number of individuals, and s is the total number of taxa in the sample of the community. Diversity index values range from zero, when all the organisms in the sample are the same, to some positive number, when some or all of the organisms in the sample are different.

Drainage area of a stream at a specified location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the stream above the specified location. Figures of drainage area given herein include all closed basins, or noncontributing areas, within the area unless otherwise noted.

Drainage basin is a part of the surface of the earth that is occupied by a drainage system, which consists of a surface stream or a body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.

Gage height (G.HT.) is the water-surface elevation referred to some arbitrary gage datum. Gage height is often used interchangeably with the more general term "stage," although gage height is more appropriate when used with a reading on a gage.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of hydrologic data are made.

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as equivalent calcium carbonate (CaCO_3).

Methylene blue active substance (MBAS) is a measure of apparent detergents. This determination depends on the formation of a blue color when methylene blue dye reacts with synthetic-detergent compounds.

Micrograms per gram ($\mu\text{g/g}$) is a unit expressing the concentration of a chemical element as the mass (micrograms) of the element sorbed per unit mass (gram) of sediment.

Micrograms per liter (UG/L , $\mu\text{g/l}$) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter.

Milligrams per liter (MG/L , mg/l) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represent the mass of solute per unit volume (liter) of water. Concentration of suspended sediment also is expressed in mg/l , and is based on the mass of sediment per liter of water-sediment mixture.

ND is used in some of the tables of pesticide data as an abbreviation for "Not Detected." Analyses in which this term is reported were made by the U.S. Environmental Protection Agency laboratory in Bay Saint Louis, Mississippi.

Organism is any living entity, such as an insect, phytoplankter, or zooplankter.

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per area habitat, usually square metres (m^2), acres, or hectares. Periphyton benthic organisms, and macrophytes are expressed in these terms.

Organisms count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliters (ml) or liters (l). Numbers of planktonic organisms can be expressed in these terms.

Total organism count is the total number of organisms collected and enumerated in any particular sample.

Partial-record station is a particular site where limited streamflow and/or water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Particle size is the diameter, in millimeters (mm), of suspended sediment or bed material determined either by sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Particle-size classification used in this report agrees with recommendations made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

<u>Classification</u>	<u>Size (mm)</u>	<u>Method of analysis</u>
Clay.....	0.00024 - 0.004	Sedimentation
Silt.....	.004 - .062	Do.
Sand.....	.062 - 2.0	Sedimentation or sieve
Gravel.....	2.0 - 64.0	Sieve

The particle-size distribution given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic material is removed and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native-water analysis.

Percent composition is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population, in terms of types, numbers, mass, or volume.

Periphyton is the assemblage of microorganisms attached to and growing upon solid surfaces. While primarily consisting of algae, the assemblage may include bacteria, fungi, protozoa, rotifers, and other small organisms.

Pesticides are chemical compounds used to control undesirable plants and animals. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides. Insecticides and herbicides, which control insects and plants respectively, are the two categories reported.

Picocurie (PC, pCi) is one trillionth (1×10^{12}) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7×10^{10} radioactive disintegrations per second. A picocurie yields 2.22 dpm (disintegrations per minute).

Plankton is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers.

Phytoplankton is the plant part of the plankton. They are usually microscopic and their movement is subject to the water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials to the surrounding water, the phytoplankton have a profound effect upon the quality of the water. They are the primary food producers in the aquatic environment and are commonly known as algae.

Blue-green algae are a group of phytoplankton organisms having a blue pigment, in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water.

Diatoms are the unicellular or colonial algae having a siliceous shell. Their concentrations are expressed as number of cells/ml of sample.

Green algae have chlorophyll pigments similar in color to those of higher green plants. Some forms produce algal mats of floating "moss" in lakes. Their concentrations are expressed as number of cells/ml of sample.

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column, and are often large enough to be seen with the unaided eye. Zooplankton are secondary consumers feeding upon bacteria, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, the zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifers.

Polychlorinated biphenyls (PCBs) are industrial chemicals that are mixtures of chlorinated biphenyl compounds having various percentages of chlorine. They are similar in structure to organochlorine insecticides.

Runoff in inches (IN, in) shows the depth to which the drainage area would be covered if all the runoff for a given time period were uniformly distributed on it.

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/l).

Suspended-sediment discharge (tons/day) is the rate at which dry weight of sediment passes a section of a stream or is the quantity of sediment, as measured by dry weight or volume, that passes a section in a given time. It is computed by multiplying discharge times mg/l times 0.0027.

Suspended-sediment load is quantity of suspended sediment passing a section in a specified period.

Total sediment discharge (tons/day) is the sum of the suspended-sediment discharge and the bed-load discharge. It is the total quantity of sediment, as measured by dry weight or volume, that passes a section during a given time.

Mean concentration is the time-weighted concentration of suspended sediment passing a stream section during a 24-hour day.

Sodium adsorption ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions with soil and is an index of sodium or alkali hazard to the soil. This ratio should be known especially for water used for irrigation.

Solute is any substance derived from the atmosphere, vegetation, soil, or rocks that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in micromhos per centimeter at 25°C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content in the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in micromhos). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

Stage-discharge relation is the relation between gage height (stage) and the volume of water per unit of time, flowing in a channel.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff" as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Substrate is the physical surface upon which an organism lived.

Natural substrates refers to any naturally occurring emersed or submersed solid surface, such as a rock or tree, upon which an organism lived.

Artificial substrate is a device which is purposely placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is taken. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multi-plate samplers (made of hardboard) for benthic organism collection, and plexiglass strips for periphyton collection.

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the stream each day for the year.

Tons per acre-foot indicates the dry mass of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration in milligrams per liter by 0.00136.

Tons per day is the quantity of a substance in solution or suspension that passes a stream section during a 24-hour day.

Total (as used in tables of chemical analyses) refers to the amount of substance present both in solution and suspension.

Total load (tons) is the total quantity of any individual constituent, as measured by dry mass or volume, that is dissolved in a specific amount of water (discharge) during a given time. It is computed by multiplying the total discharge, times the mg/l of the constituent, times the factor 0.0027, times the number of days.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchical scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, Hexagenia limbata is the following:

Kingdom.....Animal
Phylum.....Arthropoda
Class.....Insecta
Order.....Ephemeroptera
Family.....Ephemeridae
Genus.....Hexagenia
Species.....Hexagenia limbata

Weighted average is used in this report to indicate discharge--weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

WRD is used as an abbreviation for "Water Resources Data" in the summary REVISIONS paragraph to refer to previously published State annual basic-data reports published before 1975.

WSP is used as an abbreviation for "Water-Supply Paper" in references to previously published reports.

DOWNSTREAM ORDER AND STATION NUMBER

Since October 1, 1950, the order of listing hydrologic-station records in Survey reports is in a downstream direction along the main stream. All stations on a tributary entering upstream from a main-stream

station are listed before that station. A station on a tributary that enters between two main-stream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary on which a station is situated with respect to the stream to which it is immediately tributary is indicated by an indention in a list of stations in the front of the report. Each indention represents one rank. This downstream order and system of indention show which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

As an added means of identification, each hydrologic station and partial-record station has been assigned a station number. These are in the same downstream order used in this report. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The station numbering system is not used at miscellaneous sites where only random water-quality samples or discharge measurements are taken. The complete number for each station consists of eight digits, such as 08123800. The first two digits, 08 or 07, identify the river basin as previously published in the series of water-supply papers on the Surface Water Supply of the United States. The digits 07 indicate the Lower Mississippi River basin, and the digits 08 indicate the Western Gulf of Mexico basins. The remaining six digits of the station number are sequential in downstream order.

All records for a drainage basin that extends across State boundaries can be arranged in downstream order by assembling the pages from the appropriate State reports by station number.

SPECIAL NETWORKS AND PROGRAMS

Hydrologic bench-mark station is one that provides hydrologic data for a basin in which the hydrologic regimen will likely be governed solely by natural conditions. Data collected at a bench-mark station may be used to separate effects of natural from manmade changes in other basins that have been developed and in which the physiography, climate, and geology are similar to those in the undeveloped bench-mark basin.

National stream-quality accounting network (NASQAN) is a data collection designed by the Geological Survey to meet many of the information demands of agencies or groups involved in national or regional water-quality planning and management. Both accounting and broad-scale monitoring objectives have been incorporated into the network design. Areal configuration of the network is based on river-basin accounting in con-

sultation with the Water Resources Council. Primary objectives of the network are (1) to depict areal variability of water-quality conditions nationwide on a year-by-year basis and (2) to detect and assess long-term changes in stream quality.

Pesticide program is a network of regularly sampled water-quality stations where samples are collected to determine the concentration and distribution of pesticides in streams where potential contamination could result from the application of the commonly used insecticides and herbicides. Operation of the network is a Federal interagency activity.

Radiochemical program is a network of regularly sampled gaging stations where additional samples are collected monthly or twice a year (at high and low flow) to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

EXPLANATION OF STAGE AND WATER-DISCHARGE RECORDS

Collection and computation of data

The basic data collected at gaging stations consist of (1) records of stage; (2) measurements of discharge of streams and canals; and (3) stage, surface area, and contents of lakes and reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement basic data in determining the daily flow or volume of water in storage. Records of stage are obtained from direct readings on a non-recording gage or from a water-stage recorder that gives either a continuous graph of the fluctuations or a tape punched at 5-, 15-, 30-, or 60-minute intervals. Measurements of discharge are made with a current meter, using the general methods adopted by the Geological Survey on the basis of experience in stream gaging since 1888. These methods are described in standard textbooks, in Water-Supply Paper 888, and in U.S. Geological Survey Techniques of Water Resources Investigations, book 3, chapter A6. Surface areas of lakes or reservoirs are determined from instrument surveys using standard methods. The configuration of the reservoir bottom is often determined by sounding at many points.

For stream-gaging stations, rating tables giving the discharge for any stage are prepared from stage-discharge relation curves. If extensions to the rating curves are necessary to express discharge greater than measured, they are made on the basis of indirect measurements of peak discharge (such as slope-area measurements, contracted-opening measurements, or computation of flow over dams or weirs), velocity-area studies, and logarithmic plotting. The daily mean discharge is computed from gage heights and rating tables; monthly and yearly mean discharges

are computed from the daily values. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is computed by the shifting-control method, in which correction factors (based on individual discharge measurements and notes by the hydrologists or observers) are used in applying the gage heights to the rating tables.

At some stream-gaging stations, the stage-discharge relation is affected by backwater from reservoirs, tributary streams, or other sources. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in computing discharge. The slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some stations, the stage-discharge relation is affected by changing stage; at these stations, the rate of change in stage is used as a factor in computing discharge.

For a lake- or reservoir-gaging station, a capacity table giving the contents for any stage is prepared from a stage-area relation curve defined by surveys. The application of the stage to the capacity table gives the contents, from which the daily, monthly, or yearly changes in contents are computed.

If the stage-capacity curve is subject to changes because of deposition of sediment in the reservoir, periodic resurveys of the reservoir are necessary to define new stage-capacity curves. During the period between reservoir surveys, the computed contents may be increasingly in error due to the gradual accumulation of sediment.

At some gaging stations, there are periods when no gage-height record is obtained or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods, the daily discharges are estimated on the basis of recorded range in stage, adjoining good record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Daily contents may be estimated on the basis of operator's log, adjoining good record, inflow-outflow studies, and other information.

The data in this report generally comprise a description of the station and tabulations of daily and monthly values. For gaging stations on streams or canals, a table showing the daily, monthly, and yearly discharge is given. For a gaging station on a reservoir, a table showing the daily contents is given. Tables of daily or maximum and minimum daily gage heights are included for some gaging stations. Records are published for the water year, which begins on October 1 and ends on September 30. A calendar for the current water year is shown on the inside of the front cover to facilitate finding the day of the week for any date.

The description of the gaging stations, except those partial-record stations published in tabular form in the back of the report, gives the location, drainage area, period of record, type and history of gages, average discharge, extremes of discharge or contents, general remarks, and notations of revisions of previously published records. The location of the gaging stations and the drainage areas are obtained from the most accurate maps available. River mileage, given under "LOCATION" for some stations, is that determined and used by the Corps of Engineers or other agencies (U.S. Water Resources Council, 1968). Periods for which there are published records for the present station or for stations generally equivalent to the present one are given under "PERIOD OF RECORD."

The type of gage currently in use, the datum of the present gage above mean sea level, and a condensed history of the types, locations, and datums of gages used previously during the period of record are given under "GAGE." In references to datum of gage, the phrase "mean sea level" denotes "Sea Level Datum of 1929" as used by the Topographic Division of the Geological Survey unless otherwise qualified. The average discharge for the number of years indicated is given under "AVERAGE DISCHARGE;" it is not given for stations having fewer than 5 complete years of record.

For stations where changes in upstream water-resources development occurred during the period of record, "AVERAGE DISCHARGE" is given for both before and after development. The maximum discharge or contents, maximum gage height or elevation, minimum discharge or contents (if there is little or no regulation), and minimum gage height or elevation (if it is significant) are given under "EXTREMES." The minimum daily discharge is given if there is extensive regulation (also the minimum discharge and gage height if they are abnormally low).

Reliable information concerning major floods that occurred outside the period of record is given in the third or last paragraph under "EXTREMES." Unless otherwise qualified, the maximum discharge or contents correspond to the crest stage obtained by use of a water-stage recorder (graphic or digital), crest-stage gage, or nonrecording gage read at the time of the crest. If the maximum gage height did not occur at the same time as the maximum discharge or contents, it is given separately. Information pertaining to the accuracy of the discharge records and to conditions that affect the natural flow at the gaging station is given under "REMARKS;" for a reservoir station information on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir is also given under "REMARKS."

Previously published records for some stations have been found to be in error on the basis of data or information later obtained. Revisions of such records are usually published along with the current records in one of the annual or compilation reports. In order to make it easier to find such revised records, a paragraph headed "REVISIONS (WATER YEARS)" has been added to the description for all stations for which revised rec-

ords have been published, each followed by the water years for which values are revised in that report. In listing the water years, one number is given; for instance, 1965 stands for the water year October 1, 1964, to September 30, 1965. If no daily, monthly, or annual values of discharge were revised, that fact is brought out by notations after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum discharge was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the revised value was first published is given. It should be noted that for all stations for which runoff in cubic feet per second per square mile and in inches are published, a revision of the drainage area necessitates corresponding revision of all measurements based on the drainage area. Revised values of runoff in cubic feet per second per square mile and in inches, resulting from a revision of the drainage area only, are usually not published in the annual series of reports.

The daily table for stream-gaging stations gives the mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also may be expressed in cubic feet per second per square mile (line headed "CFSM"), or in inches (line headed "IN"), or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion, if the drainage area includes large noncontributing areas, or if the average annual rainfall over the drainage basin is usually less than 20 inches.

In the yearly summary below the monthly summary, the values following "MAX" are the maximum daily discharges for the calendar and water years; those following "MIN" are the minimum daily discharges.

Footnotes to the table of daily discharges are introduced by the word "NOTE." Footnotes are used to indicate periods for which the discharge is computed or estimated by special methods because of the lack of a gage-height record, backwater from various sources, or other unusual conditions. Periods of no gage-height record are indicated if the period is continuous for a month or more or includes the maximum discharge for the year. Periods of backwater from an unusual source, of indefinite stage-discharge relation, or of any other unusual conditions at the gage site are indicated only if they are a month or more in length and the accuracy of the records is affected. Days on which the stage-discharge relation is affected by ice are not indicated. The methods used in computing discharge for various unusual conditions have been explained in preceding paragraphs.

Peak discharges and their times of occurrence and corresponding gage heights for many stations are listed below the yearly summary. All independent peaks above the selected base are given. The base discharge, which is given in parentheses, is selected so that an average of about three peaks a year can be presented. Peak discharges are not published for any canals, ditches, drains, or for any stream for which the peaks are subjected to substantial control by man. Time of day is expressed in 24-hour local standard time; for example, 12:30 a.m. is 0030, 1:30 p.m. is 1330.

For gaging stations on lakes and reservoirs, the data presented comprise a description of the station, a skeleton table of capacity at given stages, a table of daily contents, and a monthly summary of stage, contents, and known diversions.

Streamflow data collected at partial-record stations and miscellaneous sites where water-quality data are not collected are given in three tables at the end of this volume. The first is a table of low-flow discharge at low-flow partial-record stations; the second is a table of annual maximum stage and (or) discharge at crest-stage and (or) flood-hydrograph partial-record stations; and the third is a table of discharge measurements at miscellaneous sites.

Accuracy of field data and computed results

The accuracy of discharge data depends primarily on (1) the stability of the stage-discharge relation, or if the control is unstable, the frequency of discharge measurements; and (2) the accuracy of observations of stage, measurements of discharge, and interpretation of records.

The station description under "REMARKS" states the degree of accuracy of the records. "Excellent" means that about 95 percent of the daily discharges are within 5 percent; "good", within 10 percent; and "fair" within 15 percent. "Poor" means that daily discharge have less than "fair" accuracy.

Figures of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second for discharges of less than 1 cfs; to tenths between 1.0 and 10 cfs; to whole numbers between 10 and 1,000 cfs; and to 3 significant figures above 1,000 cfs. The number of significant figures used is based solely on the magnitude of the figure. The same rounding rules apply to discharge figures listed for partial-record stations.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. For such station, figures of cubic

feet per second per square mile and of runoff in inches are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other data available

Information of a more detailed nature than that published for most of the gaging stations, such as observations of water temperatures, discharge measurements, gage-height records, and rating tables, is on file in the Texas District Office in Austin. Most gaging-station records are available in computer-usable form, and many statistical analyses have been made.

Records of discharge collected by agencies other than the Geological Survey

The International Boundary and Water Commission, United States and Mexico, operates all streamflow stations on the Rio Grande and near the mouth of its principal tributaries at and below El Paso, Texas. Records collected at these stations are published in annual bulletins by the Commission and may be obtained from the International Boundary and Water Commission, United States Section, P. O. Box 20003, El Paso, Texas 79998.

EXPLANATION OF SURFACE-WATER QUALITY RECORDS

Collection and examination of data

Water samples for analyses are usually collected at or near gaging stations. The discharge records at these stations are used in conjunction with the computations of the loads of chemical constituents and sediment.

Water-quality information is presented for chemical, biological, and microbiological quality; water temperature; and fluvial sediment. Chemical quality includes concentrations of individual dissolved constituents and certain properties or characteristics such as hardness, specific conductance, and pH. The biological information includes qualitative analyses of plankton and particulate inorganic and amorphous matter present. Microbiological information includes quantitative identification of certain bacteriological indicator organisms. Water temperature was measured

at the time of collection of most samples. At some sites, a continuous temperature recorder (thermograph) furnished information from which daily minimums and maximums were obtained; at other sites, once-daily temperatures were obtained. Fluvial-sediment information is given for suspended-sediment discharges and concentrations and for particle-size distribution of suspended sediment and bed material.

Water analysis

Most methods for collecting and analyzing water samples are described in U.S. Geological Survey Techniques of Water Resources Investigations listed on a following page.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed determination of for an accurate mean concentration and for use in calculating loads.

Chemical-quality data published in this report are considered to be the most representative values available for the stations listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between the reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is probably the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field and determination of carbonate and bicarbonate in the laboratory.

At stream-gaging stations where daily samples are obtained, tables are included to show monthly and annual means of specific conductance; concentrations of dissolved solids, chloride, sulfate, hardness; and loads of dissolved solids, chloride, and sulfate. The means have been computed by using the daily records of specific conductance and developing regression relationships between each water-quality parameter and specific conductance.

Water temperature

Water temperatures are measured at most of the water-quality stations. Water temperatures are also taken at time of discharge measurements at gaging stations. At sites at which daily samples are taken, the water temperature is taken about the same time each day. Large streams

have a small diurnal temperature change; but small, shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

At stations where continuously recording thermographs are present, the records published consist of maximum and minimum temperatures for each day and the monthly averages.

Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross section.

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected twice daily or, in some instances, hourly. The published values of sediment discharges for days of rapidly changing flow or concentrations were computed by the subdivided-day method (time-discharge weighted average). Therefore, for those days in which the published value of sediment discharge differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided-day method. For periods when no samples were collected, daily loads of suspended sediment were estimated on the basis of water-sediment discharge relations, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

At other stations, suspended-sediment samples were collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observations, such data are useful in establishing seasonal relations between quality and streamflow and in estimating long-term sediment-discharge characteristics of the stream.

In addition to the records of the quantities of suspended sediment, records of the periodic measurements of the particle-size distribution of the suspended sediment and bed material are included.

Publications

The annual series of water-supply papers that give information on quality of surface waters in Texas are listed in the following table. Data for the Lower Mississippi River basin are given in Part 7 and for the Western Gulf of Mexico Basin in Part 8.

Table 1.--Water-supply paper numbers and parts containing water-quality data for Texas, water years 1941-71

<u>Year</u>	<u>Parts 1-14</u>	<u>Year</u>	<u>Parts 7-8</u>	<u>Year</u>	<u>Parts 7-8</u>
1941	942	1950	1188	1963	1950
1942	950	1951	1199	1964	1957
1943	970	1952	1252	1965	1964
1944	1022	1953	1292	1966	1994
1945	1030	1954	1352	1967	2014
1946	1050	1955	1402	1968	C2096
1947	1102	1956	1452		D2097
1948	A1133	1957	1522	1969	C2146
1949	A1163	1958	1573		D2147
----	-----	1959	1644	1970	C2156
----	-----	1960	1744		D2157
----	-----	1961	1884	1971	BC2166
----	-----	1962	1944		BD2167

A Parts 7-14. B In Press. C Part 7. D Part 8.

PUBLICATIONS OF TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

Most methods used by the U.S. Geological Survey have been published in the series on techniques describing procedures for planning and executing specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (applications of Hydraulics) is on surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises. The reports listed below are for sale by the U.S. Geological Survey, Branch of Distribution, 604 South Picket Street, Alexandria, VA 22304 (authorized agent of the Superintendent of Documents, Government Printing Office).

NOTE: When ordering any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations".

- 1-D1. *Water temperature-influential factors, field measurement, and data presentation*, by H. H. Stevens, Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 p. \$1.60.
- 3-A1. *General field and office procedures for indirect discharge measurements*, by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 p. \$0.25.
- 3-A2. *Measurement of peak discharge by the slope-area methods*, by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 p. \$0.20.
- 3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 p. \$0.40.
- 3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 p. \$1.00.
- 3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5. 1967. 29 p. \$0.30.
- 3-A6. *General procedure for gaging streams*, by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6. 1968. 13 p. \$0.20.
- 3-A7. *Stage measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 p. \$0.45.
- 3-A8. *Discharge measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 p. \$1.25.
- 3-A11. *Measurement of discharge by moving-boat method*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 p. \$0.40.
- 3-A12. *Fluorometric procedures for dye tracing*, by J. F. Wilson Jr.: USGS--TWRI Book 3, Chapter A12. 1968. 31 p. \$0.35. Not currently available.
- 3-C1. *Fluvial sediment concepts*, by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 p. \$0.65.
- 3-C2. *Field methods for measurement of fluvial sediment*, by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 p. \$0.70.

- 3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 p. \$1.15.
- 4-A1. *Some statistical tools in hydrology*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 p. \$0.30.
- 4-A2. *Frequency curves*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 p. \$0.20.
- 4-B1. *Low-flow investigations*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 p. \$0.65.
- 4-B2. *Storage analyses for water supply*, by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 p. \$0.75.
- 4-B3. *Regional analyses of streamflow characteristics*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 p. \$0.75.
- 5-A1. *Methods for collection and analysis of water samples for dissolved minerals and gases*, by Eugene Brown, M. W. Skougstad, and M. J. Fishman: USGS--TWRI Book 5, Chapter A1. 1970. 160 p. \$2.40.
- 5-A2. *Determination of minor elements in water by emission spectroscopy*, by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 p. \$0.80.
- 5-A3. *Methods for analysis of organic substances in water*, by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 p. \$0.90.
- 5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples*, by K. V. Slack, R. C. Averett, P. E. Greeson, and R. G. Lipscomb: USGS--TWRI Book 5, Chapter A4. 1973. 165 p. \$1.95.
- 5-C1. *Laboratory theory and methods for sediment analysis*, by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 p. \$0.65.
- 8-B2. *Calibration and maintenance of vertical-axis type current meters*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 p. \$0.40.

08118000 Lake J. B. Thomas near Vincent, Tex.

LOCATION.--Lat 32°35'09", long 101°12'18", Borden County, at Big Spring pump station on south side of lake, 4.0 miles (6.4 km) upstream from dam on Colorado River, 7.3 miles (11.7 km) north of Vincent, 12.5 miles (20.1 km) west of Ira, and at mile 841.0 (1,353.2 km).

DRAINAGE AREA.--3,524 mi² (9,127 km²), of which 2,590 mi² (6,710 km²) is probably noncontributing. Drainage area includes 426 mi² (1,103 km²) above Bull Creek diversion dam, of which 32 mi² (83 km²) is probably noncontributing.

PERIOD OF RECORD.--Contents: October 1953 to current year.

Water quality: Chemical analyses: October 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level. Nov. 4, 1953, to Feb. 7, 1955, Colorado River Municipal Water District nonrecording gage located 4.0 miles (6.4 km) downstream at same datum.

EXTREMES.--Current year: Maximum contents, 54,980 acre-ft (67.8 hm³) July 18 (elevation, 2,230.24 ft or 679.777 m); minimum, 28,100 acre-ft (34.6 hm³) June 30 (elevation, 2,220.63 ft or 676.848 m).

Period of record: Maximum contents, 218,600 acre-ft (270 hm³) Sept. 8, 1962 (elevation, 2,259.85 ft or 688.802 m); minimum since first appreciable storage, 4,960 acre-ft (6.12 hm³) May 28, 1971 (elevation, 2,206.43 ft or 672.520 m).

REMARKS.--The lake is formed by a rolled earthfill dam, 14,500 ft (4,420 m) long. Storage began in July 1952 and the dam was completed in September 1952. There was no appreciable storage prior to July 1953. Capacity curve is based on surveys made in 1948 and 1950. There are two emergency spillways, both cut through natural ground and located as follows: The first is 500 ft (150 m) wide located at the left end of dam and the second is 1,600 ft (488 m) wide located at the right end of dam. These spillways are designed to discharge 161,000 ft³/s (4,560 m³/s) at an elevation of 2,275.0 ft (693.42 m). An uncontrolled rectangular concrete drop inlet, 38.0 by 53.0 ft (11.6 by 16.2 m) at the crest, discharges into two 10.0-foot (3.0-meter) concrete conduits. In addition, there is an outlet that can release water through a 24-inch (610-millimeter) gate into a 30-inch (762-millimeter) concrete pipe. The dam was built by the Colorado River Municipal Water District to impound water for municipal and industrial supply for the cities of Big Spring, Odessa, and Snyder. A diversion dam on Bull Creek diverts water through a 13,000-foot-long (3,960-meter) gravity canal into Lake J. B. Thomas. These diversions began in November 1953. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	2,280.0	-
Crest of right spillway (south).....	2,267.0	283,600
Crest of left spillway (north).....	2,264.0	255,000
Crest of drop inlet (top of conservation pool).....	2,258.0	203,600
Lowest gated outlet (invert).....	2,200.0	1,300

COOPERATION.--Record of diversions furnished by Colorado River Municipal Water District.

Capacity table (elevation, in feet, and contents, in acre-feet)

2,220.0	26,640
2,226.0	41,990
2,231.0	57,500

CONTENTS* IN ACRE-FEET* WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41350	39330	37640	36170	34370	32410	30160	33790	31640	31000	53840	49810
2	41260	39550	37590	36060	34310	32360	30130	33420	31540	31050	53710	49750
3	41180	39690	37560	36060	34260	32340	30130	33470	31360	33740	53580	49630
4	41120	39670	37540	35980	34240	32210	30130	33440	31170	44400	53550	49560
5	41040	39640	37480	35930	34240	32160	30130	33440	31120	46990	53390	49440
6	40980	39580	37370	35910	34050	32110	30080	33720	31120	47200	53260	49410
7	40900	39500	37350	35750	34000	32040	30030	33620	30970	47140	53100	49440
8	40790	39440	37260	35720	33970	31960	29940	33540	30880	46990	52910	49500
9	40730	39390	37240	35670	33870	31910	29890	33520	30760	46930	52720	49350
10	40670	39300	37180	35620	33840	31890	29820	33570	30640	46990	52560	49280
11	40620	39220	37130	35570	33790	31790	29790	33470	30490	48230	52430	49190
12	40560	39050	37080	35490	33770	31710	29790	33320	30420	51340	52270	49130
13	40450	38970	37020	35490	33720	31610	29790	33240	30320	53900	52140	49130
14	40390	38950	37020	35410	33620	31510	29820	33120	30160	54390	51950	49040
15	40310	38860	36960	35360	33620	31490	29840	33090	29940	54850	51760	48980
16	40230	38810	36830	35310	33470	31390	29910	32990	29910	54920	51600	48880
17	40110	38780	36780	35250	33390	31360	29910	32490	29890	54950	51440	48820
18	40030	38780	36670	35230	33340	31240	29990	32420	29650	54950	51280	49040
19	39970	38620	36620	35100	33270	31170	29910	32740	29480	54820	51120	49070
20	39920	38510	36560	35040	33120	31120	29820	32670	29360	54690	50960	49040
21	39430	38430	36530	35020	33020	31050	29700	32620	29240	54520	50800	49040
22	39450	38320	36450	34970	32940	31000	29650	32560	29050	54550	50620	48940
23	39830	38270	36450	34910	32890	30900	29580	32510	28880	54520	50460	48880
24	39780	38210	36590	34890	32770	30780	29480	32440	28790	54420	50370	48790
25	39580	38110	36510	34890	32720	30730	29460	32290	28720	54520	50220	48660
26	39530	38020	36480	34760	32690	30660	29430	32210	28700	54520	50060	48600
27	39470	37970	36430	34680	32640	30560	29310	32160	28420	54420	49900	48570
28	39390	37940	36380	34630	32590	30440	29220	32040	28370	54260	49840	48420
29	39310	37840	36320	34570	32510	30320	29370	31890	28190	54090	49780	48360
30	39250	37730	36270	34520	---	30180	29370	31740	28140	54000	49690	48260
31	39220	---	36220	34390	---	30150	---	31660	---	53900	49780	---
(+)	2225.01	2224.46	2223.90	2223.20	2222.46	2221.50	2222.96	2222.12	2220.65	2229.91	2228.61	2228.12
(*)	-2320	-1490	-1510	-1830	-1880	-2350	-3610	-2110	-3520	+25760	-4120	-1520
(††)	1320	1120	1360	1330	1350	1200	1170	1480	1880	2160	2500	1810
MAX	41350	39690	37640	36170	34370	32410	33770	33820	31640	54950	53840	49810
MIN	39220	37730	36220	34390	32510	30160	29220	31660	28140	31000	49690	48260
CAL YR 1975.....	+	-210		††	16920		MAX	42510		MIN	28190	
WTR YR 1976.....	+	+6720		††	18680		MAX	54950		MIN	28140	

+ Elevation, in feet, at end of month.

* Change in contents, in acre-feet.

†† Diversions, in acre-feet, for municipal, industrial, and mining uses.

COLORADO RIVER BASIN

08118000 Lake J. B. Thomas near Vincent, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)
SFP 15...	1105	464	7.9	24.0	110	0	33	6.7	50
DATE	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
SFP 15...	2.1	5.4	172	0	44	31	.7	5.8	261

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LOCATION.--Lat 32°36'00", long 101°05'38", Scurry County, 200 ft (61 m) upstream from bridge on Farm Road 2085, 1.9 miles (3.1 km) upstream from mouth, and 5.3 miles (8.5 km) downstream from Chimney Creek, 5.5 miles (8.8 km) west of Ira, and 8.3 miles (13.4 km) downstream from Bull Creek diversion dam.

PERIOD OF RECORD.--Periodic discharge measurements: February 1975 to current year. Operated as a daily discharge station October 1947 to December 1953, October 1958 to September 1962. Periodic water-quality data: December 1964 to June 1967, February 1975 to current year.

[illegible]

LOCATION.--Lat 32°34'54", long 101°05'42", Scurry County, just downstream from Bull Creek, 5.1 miles (8.2 km) downstream from Colorado River Dam (Lake J. B. Thomas), and 5.5 miles (8.8 km) west of Ira.

PERIOD OF RECORD.--Periodic discharge measurements and water-quality data: February 1975 to current year.

DISCHARGE AND WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

[illegible][illegible]

LOCATION.--Lat 32°35'29", long 101°03'02", Scurry County, at bridge on Farm Road 1606, 1.8 miles (2.9 km) upstream from mouth and 2.8 miles (4.5 km) west of Ira.

DRAINAGE AREA.--42.6 mi² (110.3 km²).

PERIOD OF RECORD.--Periodic discharge measurements: February 1975 to current year. Operated as a daily discharge station October 1947 to September 1965. Periodic water-quality data: March 1964 to June 1967, February 1975 to current year.

DISCHARGE AND WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

[illegible]

PERIOD OF RECORD.--Periodic discharge measurements and water-quality data: February 1975 to current year.

DISCHARGE AND WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

[illegible][illegible]

33

LOCATION.--Lat 32°32'18", long 101°03'12", Scurry County, on right bank 530 ft (162 m) downstream from bridge on State Highway 350, 3.8 miles (6.1 km) downstream from Bluff Creek, 4 miles (6 km) upstream from Willow Creek, 4.5 miles (7.2 km) southwest of Ira, and at mile 826.3 (1,329.5 km).

PERIOD OF RECORD.--Discharge: October 1947 to September 1952 (monthly records only 1950-52), October 1958 to current year.
Water quality: Chemical analyses: November 1958 to September 1970, November 1974 to current year. Water temperatures: November 1958 to September 1970, November 1974 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 2,134.15 ft (650.489 m) above mean sea level. Oct. 1-30, 1947, non-recording gage at site 75 ft (23 m) upstream at same datum.

AVERAGE DISCHARGE.--5 years (1947-52) prior to completion of Colorado River Dam, 50.5 ft³/s (1.430 m³/s), 36,590 acre-ft/yr (45.1 hm³/yr); 18 years (1958-76) regulated, 11.3 ft³/s (0.320 m³/s), 8,190 acre-ft/yr (10.1 hm³/yr).

EXTREMES.--Discharge: Current year: Maximum discharge, 2,880 ft³/s (81.6 m³/s) Apr. 29 (gage height, 14.33 ft or 4.368 m); no flow at times.

Period of record: Maximum discharge, 20,500 ft³/s (581 m³/s) July 6, 1948 (gage height, 21.35 ft or 6.507 m), from rating curve extended above 9,600 ft³/s (272 m³/s) by conveyance-slope method; no flow at times.

Historic: Flood of June 16, 1913, gage height, 32 ft (9.8 m), was the greatest since at least that date, from information by local resident. Flood in May 1947 reached a stage of 25.1 ft (7.65 m), from floodmark at site of former bridge 269 ft (82 m) upstream from gage.

Water quality: Current year: Maximum daily specific conductance, 36,000 micromhos June 18; minimum daily, 580 micromhos Apr. 29. Minimum water temperatures, freezing point on several days during January and February.

Period of record: Maximum daily specific conductance, 87,800 micromhos May 8, 1960; minimum daily, 305 micromhos Sept. 6, 1962. Maximum water temperatures, 36.0°C July 23, 24, 1969; minimum, freezing point on many days during winter months.

REMARKS.--Discharge records good. Since July 1952, flow has largely been regulated by Lake J. B. Thomas (station 08118000) 11 miles (17.7 km) upstream.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.15	3.8	.13	.76	.24	.29	.04	16	0	0	0	127
2	.12	46	.15	.61	.28	.31	.04	8.2	0	0	0	8.8
3	.12	6.3	.11	.61	.17	.38	.10	4.7	0	0	0	3.4
4	.12	3.0	.14	.52	.31	.18	2.4	3.2	0	.10	0	2.2
5	.11	1.8	.15	.58	.27	.28	2.3	7.7	0	0	0	2.6
6	.12	1.1	.20	.64	.26	.20	.56	16	0	0	0	19
7	.11	.98	.15	.59	.22	.23	.32	3.9	.39	0	0	38
8	.12	.64	.17	.58	.32	.50	.21	1.7	.03	0	0	10
9	.11	.46	.14	.60	.28	.56	.10	.87	.03	0	0	4.0
10	.10	.37	.17	.64	.29	.42	.06	.46	.03	0	0	1.0
11	.11	.34	.19	.69	.32	.28	.07	.24	.03	1.5	0	.70
12	.11	.31	.17	.69	.21	.29	23	.10	.03	9.7	0	.50
13	.12	.22	.14	.69	.31	.17	11	.02	.03	5.2	0	2.9
14	.12	.18	.21	.69	.25	.15	.82	.01	.02	2.9	0	73
15	.10	.18	.20	.72	.42	.18	.15	0	.02	1.2	0	5.0
16	.09	.22	.17	.69	.40	.11	4.7	0	.02	.19	0	1.0
17	.09	.24	.17	.56	.33	.13	19	0	.01	.03	0	.50
18	.09	.25	.10	.41	.32	.13	3.4	0	.01	.04	0	39
19	.08	.28	.12	.54	.32	.11	1.4	0	0	.02	0	31
20	.07	.26	.16	.36	.18	.12	.82	0	0	.02	0	4.0
21	.08	.24	.15	.43	.18	.09	.48	0	0	.02	0	1.0
22	1.4	.15	.19	.39	.15	.09	.28	0	0	7.6	0	.60
23	.63	.14	.25	.37	.14	.05	.20	0	0	6.1	0	.40
24	.73	.18	6.2	.54	.13	.08	.14	7.1	0	3.7	0	.30
25	.41	.19	4.1	.45	.19	.07	.11	9.8	0	1.6	0	.25
26	.31	.17	2.0	.35	.18	.09	.13	.86	0	.25	0	.20
27	.34	.16	1.4	.25	.23	.08	.13	.01	0	.01	0	.15
28	.30	.20	1.4	.25	.27	.07	257	0	0	0	0	9.9
29	.26	.17	1.1	.30	.28	.07	1100	0	0	0	0	.30
30	.27	.20	.96	.31	---	.07	50	0	0	0	0	.20
31	.27	---	.73	.34	---	.04	---	0	---	0	145	---
TOTAL	7.16	68.73	21.62	16.15	7.45	5.82	1478.96	80.87	.65	40.18	145	386.90
MEAN	.23	2.29	.70	.52	.26	.19	49.3	2.61	.022	1.30	4.68	12.9
MAX	1.4	46	6.2	.76	.42	.56	1100	16	.39	9.7	145	127
MIN	.07	.14	.10	.25	.13	.04	.04	0	0	0	0	.15
AC-FT	14	136	43	32	15	12	2930	160	1.3	80	288	767
CAL YR 1975	TOTAL	3994.33		MEAN	10.9	MAX	1110	MIN	0	AC-FT	7920	
WTR YR 1976	TOTAL	2259.49		MEAN	6.17	MAX	1100	MIN	0	AC-FT	4480	

COLORADO RIVER BASIN

08119500 Colorado River near Ira, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)
OCT 09...	1500	.11	23400	7.8	30.0	1600	1500	380	160	5100
NOV 13...	1210	.24	12700	8.1	15.0	1000	830	260	84	2600
DEC 17...	1245	.18	21300	7.8	5.0	1600	1500	390	160	4500
JAN 20...	1120	.38	20100	7.9	5.0	1600	1400	390	160	4000
MAR 02...	1020	.36	24000	7.8	14.5	1900	1700	440	200	5000
APR 29...	0245	2820	295	7.9	10.0	100	8	37	2.3	25
MAY 04...	1040	3.4	10000	7.8	18.0	900	720	240	73	1900
JUL 14...	1400	3.3	7420	7.4	23.0	760	670	200	63	1400
SEP 19...	0700	26	1740	8.1	21.0	160	66	46	12	290

DATE	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SiO2) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
OCT 09...	55	18	140	0	1600	7700	1.2	9.4	15000
NOV 13...	36	9.6	198	0	650	4000	.8	7.9	7710
DEC 17...	48	16	212	0	1400	7000	--	3.5	13600
JAN 20...	43	12	244	0	1400	6100	.8	3.7	12200
MAR 02...	50	17	212	0	1800	7600	--	5.1	15200
APR 29...	1.1	4.3	114	0	14	35	.2	7.5	182
MAY 04...	28	11	218	0	620	3000	--	7.4	5960
JUL 14...	22	8.5	103	0	490	2200	--	4.8	4420
SEP 19...	9.8	4.4	120	0	93	450	.3	9.6	964

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

MONTH	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA+MG) (MG/L)
OCT. 1975.....	7.16	24300	15300	296	8140	157	1430	28	****
NOV. 1975.....	68.73	7800	4590	852	2390	441	460	86	700
DEC. 1975.....	21.62	15900	9740	568	5190	303	940	55	****
JAN. 1976.....	16.15	18500	11400	499	6030	265	1080	47	****
FEB. 1976.....	7.17	22200	13900	270	7400	143	1310	25	****
MAR. 1976.....	5.82	24800	15600	246	8310	131	1460	23	****
APR. 1976.....	1478.96	1080	630	2500	240	960	64	254	210
MAY 1976.....	80.87	8060	4720	1030	2470	540	480	104	720
JUNE 1976.....	0.65	28700	18200	32	9660	17	1690	2.9	****
JULY 1976.....	40.18	15600	9610	1040	5090	553	920	100	****
AUG. 1976.....	145	3920	2260	885	1100	431	230	90	410
SEPT 1976.....	386.9	2170	1250	1300	550	576	130	134	290
TOTAL	2259.21	**	**	9520	**	4520	**	949	**
WTD.AVG.	6.19	2640	1600	**	740	**	160	**	320

COLORADO RIVER BASIN

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08119500 Colorado River near Ira, Tex.--Continued

SPECIFIC CONDUCTANCE (MICROMHUS/CM AT 25 DEG. C)* WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976 ONCE-DAILY												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1												1650
2	20400	24300	18800	17900	20600	24700	28700	5540	---	---	---	2230
3	20200	6520	18400	16700	21000	24000	31500	7380	---	---	---	3100
4	20200	3260	18100	16200	20700	25000	32000	8970	---	---	---	4300
5	20200	5000	18200	16600	21600	24300	33100	10700	---	14000	---	3140
	20200	5770	18900	17200	21300	26800	21600	8020	---	---	---	
6	20200	6920	18900	16600	21200	25600	21600	5050	---	---	---	6280
7	21500	7920	18900	18300	21800	23500	22300	4490	30000	---	---	2590
8	21300	9620	19400	20100	21000	23000	25500	3610	21400	---	---	2430
9	23400	9710	18600	19700	20800	23800	25000	6420	22500	---	---	3250
10	23200	11300	18900	17700	21000	21900	28400	8020	24500	---	---	4920
11	20200	12500	18900	16600	22300	21300	26800	9530	25000	33100	---	6560
12	21400	12300	19200	17700	21800	24800	9170	10600	26000	21100	---	9090
13	23300	12800	18800	17500	21800	24200	8640	12000	28500	9860	---	10600
14	24300	14000	20100	19300	22500	23300	12200	12600	29000	6530	---	943
15	20800	14000	20900	18600	21800	22600	12600	---	31000	7700	---	3000
16	14900	16600	20900	18600	21800	24600	4370	---	32000	9950	---	5490
17	22800	16000	21300	18600	22200	23600	2230	---	33500	10200	---	6370
18	22100	16000	22200	18600	22700	26500	2950	---	36000	11700	---	1990
19	21200	16600	20100	19300	22600	26800	4830	---	---	13600	---	1250
20	22800	16600	20100	20400	23400	26600	6220	---	---	15600	---	1920
21	21600	16300	20900	19900	24500	26900	7730	---	---	20100	---	3520
22	29300	15800	20100	19900	25100	26200	11000	---	---	26000	---	5450
23	25200	15800	20500	18600	24500	29700	11600	---	---	7960	---	6530
24	27700	16600	13200	19900	24600	27400	12300	20200	---	7140	---	8720
25	25400	16600	15400	19900	22300	26500	13800	9100	---	8920	---	9500
26	23600	17700	16300	19900	24500	29000	15800	11500	---	9000	---	10600
27	21100	17700	16700	20700	24800	31000	17400	13800	---	10400	---	10500
28	20200	18000	17100	19900	24200	33000	900	---	---	---	---	4640
29	23600	17700	16500	19200	25100	34700	580	---	---	---	---	3570
30	23100	20200	16000	19200	---	32600	2810	---	---	---	---	3980
31	22700	---	16400	20100	---	32200	---	---	---	---	3920	---
MONTH	22200	13700	18700	18700	22500	26300	15100	---	---	---	---	4940

TEMPERATURE (DEG. C) OF WATER* WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976 ONCE-DAILY												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.5	17.0	8.0	9.0	3.0	10.0	6.5	13.5	---	---	---	25.0
2	19.0	15.0	3.5	4.0	13.0	13.0	26.5	27.0	---	---	---	29.5
3	20.0	14.0	4.0	3.5	15.5	14.0	29.5	21.5	---	---	---	30.0
4	10.0	21.0	8.0	6.0	14.0	9.0	14.0	22.0	---	---	---	30.5
5	13.0	14.0	12.0	0.0	4.5	4.0	21.5	14.0	---	---	---	23.5
6	18.0	13.0	9.0	1.5	3.0	5.0	18.0	17.0	---	---	---	26.0
7	28.0	15.0	3.0	0.0	1.0	9.5	25.0	13.5	20.0	---	---	28.0
8	15.0	19.0	10.0	0.0	3.5	7.0	21.0	14.0	24.0	---	---	23.0
9	30.0	15.5	10.0	0.0	10.0	21.0	12.0	14.0	21.5	---	---	20.0
10	25.0	15.0	4.5	4.0	12.0	8.0	25.0	21.5	---	---	---	18.0
11	16.0	17.0	9.0	1.5	11.0	13.0	16.0	20.0	---	22.0	---	18.0
12	18.0	9.5	9.0	2.0	16.0	14.0	16.0	20.0	---	24.5	---	33.0
13	14.0	14.0	10.0	3.5	13.0	3.0	18.0	15.5	---	22.0	---	25.5
14	23.0	13.0	18.5	2.0	13.0	20.0	26.0	14.0	---	24.0	---	29.0
15	18.0	7.0	4.0	2.0	13.0	7.0	19.0	---	---	23.0	---	28.0
16	14.0	20.5	1.5	3.0	9.5	4.0	22.0	---	---	28.0	---	26.5
17	12.0	13.5	1.5	5.0	17.0	6.0	14.5	---	---	23.0	---	25.5
18	14.0	14.0	0.5	4.0	4.0	19.5	27.0	---	---	24.0	---	22.0
19	10.5	11.0	4.0	7.0	9.0	22.0	29.0	---	---	23.0	---	21.0
20	22.0	5.0	6.0	1.5	12.0	10.0	13.5	---	---	22.0	---	21.5
21	14.0	3.0	1.5	2.0	4.0	3.5	28.5	---	---	21.5	---	27.0
22	23.0	12.0	9.0	0.0	0.0	8.0	31.0	---	---	23.0	---	25.5
23	21.0	2.0	7.0	5.0	1.0	15.0	30.0	---	---	23.5	---	21.0
24	14.5	14.0	4.0	7.0	4.0	10.5	14.0	20.0	---	26.0	---	30.0
25	9.0	4.0	1.5	5.0	3.5	12.0	13.0	20.0	---	25.0	---	27.0
26	11.0	3.0	3.5	3.0	9.0	13.0	14.0	24.0	---	25.0	---	20.0
27	24.0	7.0	8.0	0.5	12.0	9.0	17.0	23.0	---	22.0	---	19.0
28	14.0	9.0	5.0	0.0	11.0	11.0	19.0	---	---	---	---	16.5
29	10.5	16.0	6.0	12.0	11.0	13.0	12.0	---	---	---	---	18.0
30	10.0	11.0	3.0	3.0	---	9.0	14.0	---	---	---	---	18.0
31	15.0	---	3.0	4.0	---	19.5	---	---	---	---	22.0	---
MONTH	17.0	12.0	6.0	3.5	8.5	11.0	20.0	---	---	---	---	24.0

COLORADO RIVER BASIN

08120500 Deep Creek near Dunn, Tex.

LOCATION.--Lat 32°34'25", long 100°54'27", Scurry County, at center of downstream side of bridge on Farm Road 1606, 1.5 miles (2.4 km) northwest of Dunn, 2.7 miles (4.3 km) upstream from Sulphur Draw, and 8.6 miles (13.8 km) upstream from mouth.

DRAINAGE AREA.--198 mi² (513 km²), of which 10 mi² (25.9 km²) is probably noncontributing.

PERIOD OF RECORD.--April 1953 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,172.17 ft (662.077 m) above mean sea level. Prior to Apr. 21, 1955, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--23 years, 12.0 ft³/s (0.340 m³/s), 0.82 in/yr (21 mm/yr), 8,690 acre-ft/yr (10.7 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 564 ft³/s (16.0 m³/s) Sept. 14 (gage height, 7.61 ft or 2.320 m); no flow for many days.
Period of record: Maximum discharge, 20,700 ft³/s (586 m³/s) Aug. 14, 1972 (gage height, 31.28 ft or 9.534 m, from floodmarks), from rating curve extended above 12,000 ft³/s (340 m³/s) by velocity-area study; no flow for many days each year.
Maximum discharge since at least 1881, 36,400 ft³/s (1,030 m³/s) June 19, 1939, by slope-area measurement at site 8.0 miles (12.9 km) upstream from gage. Flood in 1892 reached about same stage as that of June 19, 1939, from information by local residents.

REMARKS.--Records good except those for period of no gage-height record, which are poor.

REVISIONS.--WSP 1922: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	31	1.7	1.4	2.6	1.7	.02	4.9	.30	0	.52	24
2	1.4	14	1.9	1.4	1.9	1.7	.02	2.7	.22	0	.14	4.7
3	1.3	8.0	2.2	1.4	1.6	2.0	.02	2.1	.14	0	.01	1.5
4	1.5	5.0	2.2	1.5	1.5	1.9	.02	1.8	.08	0	0	.86
5	1.5	4.0	2.4	1.5	1.5	1.8	.02	6.9	3.2	.03	0	.41
6	2.1	3.0	2.2	1.5	1.5	1.7	.02	5.9	2.5	0	0	.09
7	1.9	2.5	1.9	1.4	1.5	1.5	.04	2.3	1.5	0	0	.48
8	1.5	2.2	2.2	1.6	1.5	1.3	.14	1.9	.30	0	0	.54
9	1.3	2.0	2.0	1.7	1.5	1.1	.16	1.8	.15	0	0	2.1
10	1.2	1.8	2.0	1.8	1.5	.95	.14	2.1	.04	.70	0	1.4
11	1.2	1.6	2.4	1.7	1.5	.77	.15	1.8	.01	1.6	0	.81
12	1.1	1.5	2.3	1.6	2.0	.94	3.9	1.6	0	13	0	.26
13	1.0	1.4	1.9	1.5	2.5	2.1	7.4	1.5	0	5.8	0	.26
14	2.0	1.3	2.0	1.4	2.2	1.8	2.7	1.4	0	6.7	0	133
15	2.2	1.6	1.9	1.5	2.0	1.8	3.6	1.2	0	2.9	0	4.2
16	2.0	1.6	1.9	1.6	2.0	1.8	31	1.1	0	2.0	0	1.4
17	1.5	1.7	2.0	1.4	2.0	1.9	42	1.0	0	3.1	0	.86
18	1.2	1.6	2.0	1.4	2.0	1.7	5.2	.90	0	2.1	0	8.8
19	1.1	1.7	2.4	1.6	1.9	1.8	2.5	.80	0	1.5	0	14
20	1.0	3.4	2.4	1.6	1.9	1.8	1.9	.70	0	1.3	0	2.5
21	2.0	1.7	2.4	1.6	1.9	1.9	1.6	.60	0	1.2	0	1.8
22	2.5	1.6	2.2	1.6	1.9	1.7	1.7	.60	0	.99	0	1.9
23	2.0	1.6	2.2	1.9	1.8	1.6	1.8	.50	0	13	0	1.5
24	1.8	1.6	4.4	1.8	1.8	1.3	1.8	5.0	0	3.3	0	1.3
25	1.6	1.6	9.4	1.6	1.8	.96	1.6	20	0	1.7	0	1.2
26	1.4	1.6	2.4	1.5	1.8	.71	1.9	5.0	0	1.4	0	.87
27	1.4	1.7	1.8	1.4	1.7	.36	1.7	1.0	0	1.1	0	.60
28	1.3	2.0	1.6	1.5	1.7	.17	31	.80	0	1.0	0	2.2
29	1.3	2.4	1.5	1.4	1.7	.11	66	.60	0	1.1	0	2.9
30	1.1	2.2	1.7	2.6	---	.06	11	.50	0	1.1	0	1.5
31	1.0	---	1.5	3.7	---	.03	---	.40	---	1.1	43	---
TOTAL	46.4	108.9	73.0	51.1	52.7	40.96	221.05	79.40	8.94	68.10	43.67	217.94
MEAN	1.51	3.63	2.35	1.65	1.82	1.32	7.37	2.56	.30	2.20	1.41	7.26
MAX	2.5	31	9.4	3.7	2.6	2.1	66	20	3.2	13	43	133
MIN	1.0	1.3	1.5	1.4	1.5	.03	.02	.40	0	0	0	.09
CFSM	.007	.02	.01	.008	.009	.006	.04	.01	.001	.01	.007	.04
IN.	.009	.02	.01	.010	.010	.008	.04	.01	.002	.01	.008	.04
AC-FT	93	216	145	101	105	81	438	157	18	135	87	432

CAL YR 1975 TOTAL 2307.48 MEAN 6.32 MAX 810 MIN 0 CFSM .03 IN .43 AC-FT 4580
WTR YR 1976 TOTAL 112.56 MEAN 2.77 MAX 133 MIN 0 CFSM .01 IN .19 AC-FT 2010

PEAK DISCHARGE (BASE, 850 FT³/S).--No peak above base.

COLORADO RIVER BASIN

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08120500 Deep Creek near Dunn, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPF- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)
NOV 13...	1445	1.5	858	8.0	12.0	240	59	70	15	88
JAN 20...	1320	1.6	1380	7.5	6.0	330	90	94	23	150
MAR 02...	1220	1.7	1520	7.4	14.5	320	41	89	23	200

DATE	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED (SUM OF SILICA CONSTITUENTS) (MG/L)
NOV 13...	2.5	7.9	216	0	110	99	.7	9.0	506
JAN 20...	3.5	10	292	0	180	170	1.8	9.0	782
MAR 02...	4.0	14	336	0	190	190	1.9	22	896

COLORADO RIVER BASIN

08120700 Colorado River near Cuthbert, Tex.

LOCATION.--Lat 32°28'41", long 100°56'54", Mitchell County, on left bank at downstream side of bridge on Farm Road 1808, 4.0 miles (6.4 km) downstream from Deep Creek, 4.8 miles (7.7 km) east of Cuthbert, 8.0 miles (12.9 km) northwest of Colorado City, and at mile 810.6 (1,304.3 km).

DRAINAGE AREA.--4,028 mi² (10,433 km²), of which 2,600 mi² (6,730 km²) is probably noncontributing.

PERIOD OF RECORD.--Discharge: March 1965 to current year.

Water quality: Chemical analyses: March 1965 to current year. Water temperatures: March 1965 to current year.

GAGE.--Water-stage and specific-conductance recorders. Datum of gage is 2,073.49 ft (632.000 m) above mean sea level.

AVERAGE DISCHARGE.--11 years, 31.5 ft³/s (0.892 m³/s), 22,820 acre-ft/yr (28.1 hm³/yr).

EXTREMES.--Discharge: Current year: Maximum discharge, 2,720 ft³/s (77.0 m³/s) Apr. 29 (gage height, 12.81 ft or 3.904 m); no flow at times.

Period of record: Maximum discharge, 11,500 ft³/s (326 m³/s) Aug. 14, 1972 (gage height, 25.99 ft or 7.922 m); no flow at times.

Historic: Floods in 1941 and 1946 reached a stage of 36.1 ft (11.00 m) from Texas Highway Department bridge plans.

Water quality: Current year: Maximum daily specific conductance, 8,160 micromhos Apr. 9; minimum daily, 853 micromhos Apr. 29.

Maximum water temperatures, 34.0°C Aug. 5, 6; minimum, 3.0°C Jan. 7.

Period of record: Maximum daily specific conductance, 70,000 micromhos Nov. 17, 1968; minimum daily, 290 micromhos Aug. 14, 1972.

Maximum water temperatures, 36.0°C Aug. 2, 1966; minimum, freezing point on many days during winter months.

REMARKS.--Discharge records good. Flow is partly regulated by Lake J. B. Thomas (station 08118000). Specific conductance is recorded continuously at this station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	2.1	3.1	5.2	6.7	4.3	3.2	85	1.9	0	1.4	520
2	1.9	157	3.1	4.7	6.1	4.2	2.8	43	1.5	0	1.1	94
3	1.9	70	3.1	4.5	4.9	4.4	3.1	27	1.2	20	.79	19
4	1.8	18	3.4	4.4	4.9	4.4	3.9	20	1.0	15	.52	9.2
5	1.6	8.9	3.8	4.2	4.6	4.6	3.9	29	1.1	66	.33	7.1
6	1.6	6.4	4.0	4.3	4.5	4.0	4.6	47	2.4	8.1	.23	18
7	1.8	5.1	3.8	4.3	4.4	3.9	3.9	34	5.4	3.4	.17	60
8	1.7	4.8	3.8	4.1	4.9	4.7	3.2	19	4.1	1.5	.10	51
9	1.5	4.4	3.9	4.0	4.8	5.0	2.3	13	3.2	1.0	.06	17
10	1.5	3.9	4.2	4.2	4.8	4.7	2.0	11	2.2	1.2	.02	8.1
11	1.5	3.4	4.2	4.2	5.0	4.4	2.1	9.8	1.5	17	.01	5.5
12	1.4	3.5	4.4	4.2	5.2	4.2	83	4.2	1.1	19	0	3.7
13	1.3	3.2	4.7	4.5	6.9	3.6	128	6.7	.71	26	0	2.8
14	1.4	3.3	5.1	4.2	5.9	4.0	27	5.0	.38	29	0	284
15	2.1	3.1	4.2	4.2	5.5	4.7	14	5.7	.24	101	0	70
16	2.4	2.9	3.9	4.2	5.3	4.3	113	5.4	.14	53	0	13
17	2.3	3.0	3.9	4.0	5.1	4.2	206	4.7	.12	16	0	6.4
18	2.4	3.5	3.5	4.0	4.7	4.2	71	4.6	.09	13	0	19
19	1.9	3.9	3.6	4.2	4.7	3.7	20	4.0	.07	7.4	0	134
20	1.6	3.8	3.8	3.8	4.5	3.6	9.4	4.1	.04	4.4	0	52
21	1.6	5.4	4.0	4.5	4.8	2.9	5.5	3.9	.02	3.0	0	22
22	2.6	3.9	4.1	4.2	4.0	2.9	4.1	3.7	0	6.9	0	11
23	3.3	3.6	4.2	4.3	4.1	2.8	3.3	3.1	0	44	0	7.2
24	3.1	3.4	8.3	4.7	3.9	2.8	2.8	4.4	0	20	0	5.8
25	2.9	3.4	24	5.1	4.3	2.7	2.2	14	0	8.5	0	4.9
26	2.2	3.3	17	4.6	4.2	2.5	1.6	30	0	7.6	0	4.6
27	2.3	3.1	8.9	4.4	4.0	2.2	1.6	7.3	0	6.2	0	16
28	2.2	3.2	7.1	4.2	4.1	2.2	414	6.1	0	4.5	0	32
29	2.2	3.6	6.2	4.0	4.5	3.2	2510	4.6	0	3.2	0	26
30	2.3	4.0	5.8	4.0	---	3.6	805	3.4	0	2.2	0	11
31	2.0	---	5.4	5.0	---	3.2	---	2.3	---	1.9	238	---
TOTAL	62.7	351.5	172.5	134.4	141.3	116.1	4456.5	474.0	28.45	510.0	242.73	1534.3
MEAN	2.02	11.7	5.56	4.34	4.87	3.75	149	15.3	.95	16.5	7.83	51.1
MAX	3.3	157	24	5.2	6.9	5.0	2510	85	5.4	101	238	520
MIN	1.3	2.1	3.1	3.8	3.9	2.2	1.6	2.3	0	0	0	2.8
AC-FT	124	697	342	267	280	230	8840	940	56	1010	481	3040
CAL YR 1975	TOTAL	6727.13	MEAN 18.4	MAX 1530	MIN 0	AC-FT 13340						
WTR YR 1976	TOTAL	8224.48	MEAN 22.5	MAX 2510	MIN 0	AC-FT 16310						

08120700 Colorado River near Cuthbert, Tex.--Continued

WATER QUALITY DATA* WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (MG/L)	DISSOLVED MAGNESIUM (MG/L)	DISSOLVED SODIUM (MG/L)
OCT 24...	1110	1.2	3160	8.2	17.0	550	360	130	55	480
NOV 13...	1135	3.1	4130	8.3	9.5	690	460	160	69	660
DEC 18...	1815	2.6	5530	8.4	5.0	940	680	220	94	870
JAN 20...	1120	3.8	5860	7.9	3.5	960	690	220	100	910
FEB 03...	1120	3.2	4430	7.9	7.0	920	650	210	95	700
MAR 02...	1010	4.4	5450	8.3	14.5	990	700	210	110	860
APR 29...	1130	2930	1080	7.6	12.0	190	71	60	8.9	150
MAY 04...	1540	20	6890	7.8	23.0	840	610	220	71	1200
JUL 07...	0950	3.5	1490	7.4	24.5	360	270	90	33	170
AUG 08...	1700	.02	4380	7.9	30.0	700	490	160	74	700
SEP 16...	1345	13	1510	7.8	26.5	200	95	57	15	210

DATE	SODIUM ADSORPTION RATIO	DISSOLVED POTASSIUM (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SiO2) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
OCT 24...	8.9	7.6	228	0	340	730	.5	3.7	1860
NOV 13...	11	10	272	0	540	950	.9	4.4	2530
DEC 18...	12	10	305	6	770	1300	--	1.6	3420
JAN 20...	13	10	336	9	810	1300	1.3	1.3	3520
FEB 03...	10	12	326	0	810	930	1.3	1.2	2920
MAR 02...	12	13	340	0	860	1200	--	3.0	3420
APR 29...	4.8	5.5	141	0	84	210	.4	8.1	596
MAY 04...	18	10	278	0	560	1800	--	10	4010
JUL 07...	3.9	7.5	115	0	340	200	.3	5.7	903
AUG 08...	11	15	262	0	570	1000	.8	6.2	2660
SEP 16...	6.4	5.6	133	0	120	310	.4	7.0	791

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

MONTH	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	DISSOLVED SOLIDS (MG/L)	DISSOLVED SOLIDS (TONS)	DISSOLVED CHLORIDE (MG/L)	DISSOLVED CHLORIDE (TONS)	DISSOLVED SULFATE (MG/L)	DISSOLVED SULFATE (TONS)	HARDNESS (CA+MG) (MG/L)
OCT. 1975.....	62.7	3480	2080	352	780	132	450	76	620
NOV. 1975.....	351.5	4320	2620	2490	1000	953	540	517	770
DEC. 1975.....	172.5	5540	3410	1590	1430	668	580	271	850
JAN. 1976.....	134.4	5780	3560	1290	1510	548	600	216	870
FEB. 1976.....	136.8	5520	3400	1250	1410	523	590	219	850
MAR. 1976.....	116.1	6100	3770	1180	1630	510	600	188	880
APR. 1976.....	4456.5	1440	820	9820	250	3030	190	2170	260
MAY 1976.....	473	5580	3440	4400	1450	1860	580	745	860
JUNE 1976.....	28.45	6480	4010	308	1760	136	610	47	900
JULY 1976.....	509	2480	1440	1980	510	704	310	427	440
AUG. 1976.....	242.73	1230	680	444	190	126	180	114	220
SEPT 1976.....	1534.3	1440	790	3280	240	997	180	754	250
TOTAL	8219.96	**	**	28400	**	10200	**	5740	**
WTD.AVG.	22.52	2180	1300	**	460	**	260	**	390

COLORADO RIVER BASIN

08120700 Colorado River near Cuthbert, Tex.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C); WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3460	4200	4030	5950	5810	5390	6460	3750	6100	---	3070	954
2	3400	4710	4180	5680	4770	5450	6350	4980	6530	---	3200	1090
3	3510	4120	4260	5710	4430	5430	6180	6130	6600	1930	3330	1710
4	3460	3780	4000	5680	4890	5490	6900	6890	6680	2220	3600	2430
5	3470	3760	4040	5560	5260	5410	6680	6960	6880	1050	3820	2720
6	3480	3830	3900	5020	5280	5430	6230	5390	6770	1130	4020	2230
7	3480	4050	4040	5470	5310	5430	6130	6120	6530	1640	4130	1350
8	3470	4170	4380	5520	5570	5460	6990	6530	6550	2210	4370	1470
9	3520	4250	4300	5780	5690	5420	8160	6040	6570	2740	4470	1920
10	3480	4200	4380	5620	5770	5840	7850	5550	6370	2940	4560	2310
11	3540	4200	4530	5780	5520	6700	7450	5540	6070	2200	4630	2920
12	3520	4160	4500	5810	5720	7160	3180	5830	5860	2950	---	3030
13	3560	4130	4740	5860	5800	6970	5130	6180	6100	4500	---	3010
14	3560	4110	4690	5860	5340	7010	4610	6500	6250	3010	---	1790
15	3540	4080	4660	6050	5120	6750	4980	6540	6410	2120	---	1320
16	3500	3980	5200	5810	5570	6780	3900	6520	6570	2860	---	1460
17	3520	3930	5500	5910	5720	6470	2710	6640	6740	1630	---	1780
18	3390	3960	5500	5940	5890	6640	3010	6540	6960	1680	---	1740
19	3440	3880	5440	5860	5790	6600	2700	6680	7000	3190	---	1050
20	3390	3900	5500	5860	5830	6470	2630	6780	7030	3240	---	1310
21	3480	3780	5290	6120	5790	6270	2890	6830	7230	3420	---	1280
22	3450	3960	5620	5980	5840	6120	3060	6930	---	3410	---	1830
23	3200	3750	5390	5860	6020	6100	3180	7000	---	3650	---	2140
24	3160	3570	5320	5910	5940	6070	3230	6250	---	2900	---	2430
25	3150	3760	7330	5820	5480	5800	3320	5950	---	3310	---	2740
26	3230	3820	6670	5730	5630	5720	3430	5300	---	2660	---	2960
27	3680	3880	6410	5730	5570	5870	3470	6630	---	2720	---	3220
28	3660	3810	5620	5730	5420	6070	895	5960	---	2790	---	3870
29	3850	3950	5570	5780	5380	6250	853	5850	---	2840	---	2000
30	3960	4080	5940	5860	---	6280	1500	5790	---	2920	---	3710
31	3930	---	6120	---	---	6440	---	5970	---	2990	1190	---
MONTH	3500	3990	5070	5780	5520	6110	4470	6150	---	2650	---	2130

TEMPERATURE (DEG. C) OF WATER; WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.0	18.0	9.0	10.0	14.0	19.0	18.0	19.0	22.0	---	33.0	22.0
2	18.0	17.0	11.0	5.0	12.0	16.0	---	20.0	25.0	---	30.0	21.0
3	---	19.0	11.0	5.0	14.0	15.0	15.0	21.0	25.0	24.0	30.0	22.0
4	20.0	18.0	14.0	5.0	11.0	16.0	18.0	20.0	28.0	---	32.0	28.0
5	23.0	20.0	14.0	7.0	9.0	---	23.0	21.0	27.0	29.0	34.0	30.0
6	22.0	18.0	7.0	7.0	---	10.0	18.0	21.0	25.0	29.0	34.0	24.0
7	21.0	18.0	11.0	3.0	6.0	9.0	21.0	19.0	28.0	29.0	26.0	---
8	23.0	19.0	10.0	4.0	9.0	12.0	20.0	21.0	---	29.0	30.0	23.0
9	23.0	20.0	10.0	6.0	15.0	15.0	22.0	---	26.0	24.0	28.0	18.0
10	24.0	15.0	13.0	7.0	15.0	17.0	21.0	27.0	28.0	28.0	29.0	18.0
11	24.0	16.0	12.0	7.0	16.0	17.0	24.0	20.0	27.0	23.0	---	27.0
12	23.0	11.0	8.0	---	17.0	15.0	18.0	25.0	31.0	25.0	---	29.0
13	23.0	13.0	15.0	8.0	16.0	8.0	22.0	---	32.0	23.0	---	22.0
14	25.0	13.0	16.0	9.0	17.0	13.0	25.0	25.0	---	25.0	---	23.0
15	18.0	14.0	9.0	9.0	17.0	---	16.0	26.0	26.0	27.0	---	21.0
16	22.0	15.0	9.0	8.0	18.0	15.0	18.0	19.0	28.0	27.0	---	22.0
17	19.0	16.0	4.0	10.0	15.0	18.0	---	25.0	25.0	31.0	---	22.0
18	17.0	18.0	5.0	11.0	16.0	19.0	21.0	17.0	25.0	26.0	---	22.0
19	18.0	14.0	5.0	7.0	10.0	18.0	18.0	23.0	---	26.0	---	23.0
20	22.0	10.0	6.0	6.0	---	17.0	20.0	23.0	28.0	26.0	---	22.0
21	22.0	10.0	5.0	7.0	11.0	16.0	24.0	24.0	27.0	30.0	---	18.0
22	21.0	9.0	7.0	10.0	9.0	16.0	25.0	27.0	---	25.0	---	19.0
23	21.0	8.0	6.0	14.0	6.0	---	25.0	24.0	---	26.0	---	19.0
24	18.0	10.0	5.0	10.0	12.0	22.0	25.0	24.0	---	29.0	---	21.0
25	11.0	9.0	8.0	---	16.0	20.0	26.0	23.0	---	26.0	---	25.0
26	16.0	---	---	8.0	16.0	18.0	25.0	21.0	---	30.0	---	24.0
27	20.0	9.0	10.0	8.0	17.0	17.0	18.0	22.0	---	32.0	---	25.0
28	18.0	11.0	6.0	9.0	18.0	17.0	12.0	25.0	---	32.0	---	20.0
29	17.0	---	6.0	9.0	17.0	18.0	11.0	26.0	---	30.0	---	15.0
30	16.0	10.0	5.0	11.0	---	13.0	15.0	28.0	---	30.0	---	17.0
31	19.0	---	10.0	---	---	19.0	---	29.0	---	31.0	21.0	---
MONTH	20.0	14.0	9.0	8.0	13.5	16.0	20.0	23.0	---	27.5	---	22.0

08121000 Colorado River at Colorado City, Tex.

LOCATION.--Lat 32°23'33", long 100°52'42", Mitchell County, on right bank at Colorado City, 3,517 ft (1,072 m) upstream from bridge on State Highway 377, 4,100 ft (1,250 m) upstream from the Texas and Pacific Railroad Co. bridge, 1.3 miles (2.1 km) downstream from bridge on Interstate Highway 20 and U.S. Highway 80, 1.6 miles (2.6 km) upstream from Lone Wolf Creek, and at mile 796.3 (1,281.2 km).

DRAINAGE AREA.--4,082 mi² (10,572 km²), approximately, of which 2,600 mi² (6,730 km²) is probably noncontributing.

PERIOD OF RECORD.--Discharge: November 1923 to August 1925 (published as "at Colorado"), May 1946 to current year.

Water quality: Chemical analyses: May 1946 to September 1954, November 1956 to current year. Water temperatures: November 1952 to September 1954, November 1956 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 2,030.16 ft (618.793 m) above mean sea level. Nov. 28, 1923, to Aug. 31, 1925, nonrecording gage at site 1.4 miles (2.3 km) downstream at different datum. May 9 to Aug. 5, 1946, nonrecording gage at site 185 ft (56 m) upstream at present datum.

AVERAGE DISCHARGE.--6 years (1946-52) prior to completion of Lake J. B. Thomas, 85.4 ft³/s (2.419 m³/s), 61,870 acre-ft/yr (76.3 hm³/yr); 24 years (1952-76) regulated, 37.6 ft³/s (1.065 m³/s), 27,240 acre-ft/yr (33.6 hm³/yr).

EXTREMES.--Discharge: Current year: Maximum discharge, 1,920 ft³/s (54.4 m³/s) Apr. 30 (gage height, 12.41 ft or 3.783 m); no flow July 1, Aug. 8-30.

Period of record: Maximum discharge, 24,900 ft³/s (705 m³/s) July 6, 1948 (gage height, 22.37 ft or 6.818 m, from floodmark); maximum gage height, 24.89 ft (7.586 m) Aug. 14, 1972; no flow at times.

Historic: Maximum stage since at least 1910, 35.9 ft (10.94 m) June 20, 1939, present site and datum, based on floodmarks 1,000 ft (305 m) upstream and 3,740 ft (1,140 m) downstream from gage; discharge, 66,000 ft³/s (1,870 m³/s) by slope-area measurement of peak flow at site 2.5 miles (4.0 km) upstream from gage.

Water quality: Current year: Maximum daily specific conductance, 17,500 micromhos June 17; minimum daily, 549 micromhos Apr. 29.

Maximum water temperatures, 36.0°C July 30; minimum, 1.0°C Dec. 24, Jan. 3, 5, 7, 9.

Period of record: Maximum daily specific conductance (1946-54, 1956-69, 1971-76), 67,400 micromhos May 14, 17, 1961; minimum daily, 245 micromhos May 14, 1957. Maximum water temperatures (1956-69, 1971-76), 37.0°C July 29, 1960, July 9, 1965, and July 1, 1973; minimum, freezing point on many days during winter months.

REMARKS.--Discharge records good. Some regulation since 1952 by Lake J. B. Thomas (station 08118000). Numerous diversions from Lake J. B. Thomas for municipal use and oilfield operation. Record of diversion from river, 3 miles (5 km) upstream from gage, furnished by Colorado River Municipal Water District.

REVISIONS (WATER YEARS).--WSP 1118: Drainage area. WSP 1512: 1946(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.09	.57	.09	.15	.15	.24	.15	137	.08	0	.05	322
2	.13	28	.11	.15	.17	.20	.18	67	.05	.02	.04	214
3	.15	62	.15	.24	.18	.12	.18	38	2.3	.04	.03	53
4	.19	4.3	.15	.24	.16	.13	.12	26	3.7	5.6	.03	27
5	.24	18	.15	.24	.17	.09	.13	17	4.0	19	.02	17
6	.24	13	.15	.24	.15	.06	.18	43	.91	1.7	.02	11
7	.24	11	.15	.25	.15	.12	.21	55	.25	.20	.01	91
8	.22	9.6	.15	.16	.20	.27	.14	36	.24	.09	0	178
9	.16	9.2	.15	.18	.23	.16	.14	24	.16	.08	0	50
10	.20	8.4	.15	.23	.21	.15	.13	17	.14	.09	0	22
11	.24	8.2	.15	.24	.23	.16	.13	1.2	.09	1.3	0	10
12	.21	6.8	.22	.24	.23	.13	1.3	.38	.09	.83	0	.96
13	.17	6.7	.24	.24	.34	.09	102	.25	.09	.23	0	.47
14	.18	4.7	.25	.17	.41	.13	63	.15	.07	1.6	0	30
15	.56	.62	.22	.19	.41	.21	20	.15	1.7	19	0	173
16	.70	.33	.15	.23	.36	.12	60	.20	2.9	2.0	0	39
17	.47	.24	.19	.23	.19	.13	173	.10	3.1	49	0	20
18	.26	.27	.15	.22	.12	.14	128	.10	3.8	43	0	62
19	.24	.38	.15	.22	.11	.11	45	.14	3.3	15	0	116
20	.24	.27	.15	.17	.14	.13	24	.12	2.9	.66	0	102
21	.34	.24	.15	.15	.10	.16	16	.15	2.8	.16	0	50
22	2.7	.24	.25	.34	.08	.20	8.9	.15	3.0	.20	0	27
23	1.1	.18	.22	6.1	.09	.26	.81	.14	3.2	2.6	0	15
24	.56	.15	1.5	8.0	.10	.23	.36	3.4	2.8	30	0	2.0
25	.41	.16	.41	7.6	.14	.22	.22	3.3	2.8	25	0	.94
26	.41	.15	.16	7.2	.24	.17	.16	6.4	.78	14	0	.83
27	.41	.15	.15	7.3	.27	.14	.17	12	.12	7.9	0	.94
28	.41	.16	.18	6.0	.24	.17	31	9.4	.06	.54	0	2.2
29	.41	.21	.15	.44	.24	.06	1640	6.2	.03	.14	0	.79
30	.41	.16	.15	.20	---	.06	1320	.72	.02	.09	0	.62
31	.52	---	.15	.28	---	.10	---	.13	---	.07	19	---
TOTAL	12.81	194.38	6.74	47.86	5.81	4.66	3635.61	504.78	45.48	240.14	19.20	1638.75
MEAN	.41	6.48	.22	1.54	.20	.15	121	16.3	1.52	7.75	.62	54.6
MAX	2.7	62	1.5	8.0	.41	.27	1640	137	4.0	49	19	322
MIN	.09	.15	.09	.15	.08	.06	.12	.10	.02	0	0	.47
AC-FT	25	386	13	95	12	9.2	7210	1000	90	476	38	3250
(†)	190	416	366	276	309	287	495	305	108	784	150	542
CAL YR 1975 TOTAL	6740.98		MEAN 18.5		MAX 1370		MIN 0		AC-FT 13370		† 4050	
WTR YR 1976 TOTAL	6356.22		MEAN 17.4		MAX 1640		MIN 0		AC-FT 12610		† 4230	

† Diversions, in acre-feet, from river for brine disposal by Colorado River Municipal Water District.

COLORADO RIVER BASIN

08121000 Colorado River at Colorado City, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH	TEMPERATURE (DEG C)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG)	DIS-SOLVED SODIUM (NA) (MG/L)
OCT 24...	1235	1.2	9100	8.0	18.0	1100	890	210	130	1700
NOV 13...	1620	6.9	7570	8.3	14.5	900	720	230	80	1300
DEC 17...	1115	.13	11600	7.8	5.0	1500	1200	290	180	2100
JAN 20...	1445	.16	13500	7.7	9.5	1700	1400	340	200	2500
FEB 02...	1325	.19	12700	7.5	18.5	2100	1900	460	220	2400
APR 30...	1420	1320	766	7.8	--	180	79	57	8.0	84
MAY 01...	1245	125	2460	7.9	17.0	340	230	96	25	380
JUN 03...	1220	4.0	9580	7.5	--	1100	920	230	120	1800
JUL 15...	1000	.65	6520	7.1	23.0	680	590	140	80	1200
SEP 01...	1745	282	1270	8.0	20.0	200	98	80	12	180

DATE	SODIUM ADSORPTION RATIO	DIS-SOLVED SULFATE (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SiO2) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
OCT 24...	23	12	205	0	1300	2300	.6	.9	5760
NOV 13...	19	7.6	228	0	670	2000	.7	6.7	4410
DEC 17...	24	12	296	0	1600	2900	.9	.9	7230
JAN 20...	27	11	328	0	1800	3500	.9	1.2	8520
MAR 02...	23	13	226	0	2100	3500	--	.9	8810
APR 30...	2.8	6.0	117	0	56	150	.3	6.3	425
MAY 01...	8.9	8.0	140	0	200	590	.4	7.4	1380
JUN 03...	24	13	178	0	900	2800	--	3.2	5950
JUL 15...	20	9.0	112	0	680	1700	--	1.3	3870
SEP 01...	5.6	5.5	124	0	120	260	.2	6.1	705

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

MONTH	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA+MG) (MG/L)
OCT. 1975.....	12.81	9040	5580	193	2460	85	1110	38	1060
NOV. 1975.....	194.38	5400	3240	1700	1440	755	490	258	670
DEC. 1975.....	6.74	10700	6610	120	2920	53	1400	25	***
JAN. 1976.....	47.86	11300	7010	905	3160	409	1340	174	***
FEB. 1976.....	5.57	10100	6260	94	2760	41	1300	19	***
MAR. 1976.....	4.66	14500	8960	113	4160	52	1570	20	***
APR. 1976.....	3635.61	1090	620	6100	240	2330	80	784	210
MAY 1976.....	504.78	5260	3160	4300	1400	1900	510	697	660
JUNE 1976.....	45.46	12700	7820	960	3620	445	1340	164	***
JULY 1976.....	240.14	4870	2900	1880	1290	835	420	275	610
AUG. 1976.....	19.2	3290	1880	98	840	44	240	13	440
SEPT 1976.....	1638.75	1500	850	3750	340	1500	110	488	250
TOTAL	6355.96	**	**	20200	**	8450	**	2950	**
WTD.AVG.	17.41	2010	1200	**	490	**	170	**	310

COLORADO RIVER BASIN

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08121000 Colorado River at Colorado City, Tex.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C) • WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7270	9810	9630	12200	9320	12600	16600	2460	8930	---	5490	913
2	7460	4730	9450	12200	9230	12800	16100	3450	9020	12500	6360	951
3	7570	3710	9410	12700	9200	12700	16600	4930	9580	11400	7020	1510
4	7730	5390	9410	12700	9190	12600	16100	5810	15300	9800	7340	2260
5	7850	7550	9410	12700	9280	13600	16100	6390	15100	8650	7590	3080
6	8030	4750	9860	12200	9450	14300	16500	7080	7300	8860	8010	2960
7	8190	5620	9800	12700	9530	16800	16800	7450	7000	8900	8330	1650
8	8360	5810	9720	13000	9490	12300	17000	7390	6950	9060	---	942
9	8500	6530	9880	13500	9530	13600	16300	6800	7000	9180	---	2580
10	8640	6710	10000	13000	9270	12900	16300	6950	6510	9060	---	3540
11	8710	7140	10100	13000	9810	14700	16300	7560	7570	5270	---	3240
12	8780	7230	10300	13200	9720	14900	15400	7730	7520	6920	---	4160
13	8870	7570	10400	13200	9720	14700	4340	8050	7560	7540	---	4300
14	9070	7600	10500	13700	9760	14900	2900	8360	9070	6270	---	1420
15	8730	7860	10600	13500	9360	15400	5540	8430	9270	6640	---	948
16	9000	7980	10800	13900	9810	14900	3660	8290	7610	6560	---	2360
17	9280	8050	10900	13900	10600	14900	3060	8500	17500	5000	---	2630
18	9450	7980	11100	13000	10700	15600	2440	8720	15600	3890	---	1300
19	9670	8110	11400	13300	10800	15500	2310	9530	14200	3910	---	2040
20	9750	8370	10700	13300	10600	14900	2910	9490	7570	3720	---	2220
21	9810	8660	11000	13200	11100	14900	4380	9600	12800	3830	---	2140
22	9440	8550	11700	13700	11300	15000	5280	9710	12800	4110	---	3150
23	9230	8610	11100	16000	11400	15100	5430	10200	12900	4000	---	3560
24	9120	8660	10900	12500	11600	15300	5750	9500	13100	3250	---	4090
25	9070	8730	10200	10500	11800	15500	5920	8360	12900	3500	---	4500
26	8890	8880	11200	9450	11800	15300	6680	8760	12400	4140	---	5790
27	8800	9120	11400	9290	11600	15100	6970	8430	12400	4460	---	5610
28	8950	9050	11300	9630	11600	16100	5220	7910	13100	4700	---	4450
29	9070	8960	11400	9370	11600	16200	549	8360	13500	4960	---	4560
30	9270	9450	12000	9200	---	16900	562	8690	14000	5150	---	4850
31	9440	---	11900	9160	---	16600	---	8870	---	5380	3250	---
MONTH	8770	7570	10600	12400	10300	14600	9000	7800	10900	6350	---	2920

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.0	21.0	12.0	5.0	16.0	13.0	22.0	17.0	20.0	---	---	20.0
2	13.0	15.0	5.0	6.0	5.0	17.0	11.0	23.0	33.0	---	---	23.0
3	11.0	20.0	13.0	1.0	15.0	15.0	23.0	20.0	21.0	---	---	22.0
4	19.0	14.0	7.0	7.0	8.0	18.0	20.0	17.0	32.0	---	---	28.0
5	23.0	21.0	15.0	1.0	10.0	8.0	23.0	22.0	21.0	31.0	---	28.0
6	25.0	15.0	6.0	9.0	3.0	9.0	16.0	14.0	31.0	32.0	---	27.0
7	14.0	21.0	---	1.0	9.0	13.0	22.0	22.0	22.0	25.0	---	22.0
8	21.0	13.0	5.0	6.0	15.0	13.0	12.0	15.0	33.0	31.0	---	22.0
9	15.0	21.0	6.0	1.0	18.0	8.0	24.0	20.0	22.0	23.0	---	20.0
10	26.0	12.0	6.0	9.0	18.0	13.0	17.0	17.0	34.0	29.0	---	26.0
11	17.0	19.0	7.0	9.0	19.0	12.0	23.0	31.0	22.0	24.0	---	18.0
12	26.0	10.0	8.0	13.0	11.0	16.0	18.0	21.0	23.0	29.0	---	28.0
13	18.0	14.0	16.0	12.0	22.0	5.0	24.0	26.0	33.0	28.0	---	22.0
14	26.0	8.0	15.0	6.0	14.0	22.0	21.0	14.0	34.0	23.0	---	32.0
15	18.0	16.0	12.0	4.0	21.0	9.0	25.0	24.0	23.0	22.0	---	22.0
16	20.0	17.0	5.0	6.0	12.0	7.0	13.0	28.0	34.0	31.0	---	30.0
17	14.0	18.0	6.0	5.0	16.0	8.0	18.0	28.0	22.0	26.0	---	22.0
18	17.0	14.0	2.0	15.0	16.0	22.0	20.0	16.0	28.0	25.0	---	28.0
19	21.0	14.0	2.0	9.0	20.0	13.0	25.0	24.0	20.0	24.0	---	26.0
20	24.0	7.0	2.0	10.0	12.0	16.0	15.0	14.0	21.0	33.0	---	24.0
21	15.0	10.0	8.0	2.0	12.0	22.0	26.0	31.0	21.0	22.0	---	20.0
22	22.0	4.0	7.0	13.0	18.0	10.0	18.0	20.0	31.0	25.0	---	28.0
23	16.0	12.0	7.0	7.0	17.0	10.0	25.0	33.0	23.0	22.0	---	19.0
24	18.0	5.0	1.0	13.0	7.0	14.0	18.0	20.0	33.0	23.0	---	28.0
25	10.0	14.0	8.0	11.0	18.0	15.0	25.0	26.0	23.0	30.0	---	22.0
26	20.0	2.0	10.0	8.0	7.0	21.0	16.0	14.0	31.0	31.0	---	28.0
27	15.0	14.0	11.0	3.0	20.0	9.0	25.0	24.0	33.0	24.0	---	20.0
28	21.0	7.0	8.0	9.0	10.0	13.0	20.0	20.0	35.0	35.0	---	21.0
29	12.0	18.0	7.0	5.0	10.0	13.0	12.0	23.0	---	25.0	---	16.0
30	20.0	12.0	3.0	15.0	---	17.0	12.0	32.0	---	36.0	---	26.0
31	15.0	---	11.0	6.0	---	7.0	---	24.0	---	25.0	---	---
MONTH	18.5	13.5	7.5	7.5	14.0	13.0	19.5	23.0	27.0	27.0	---	24.0

COLORADO RIVER BASIN

08123000 Lake Colorado City near Colorado City, Tex.

LOCATION.--Lat 32°20'41", long 100°55'10", Mitchell County, on left bank at municipal water-intake structure, 1.7 miles (2.7 km) upstream from Colorado City Dam on Morgan Creek, 2.2 miles (3.5 km) downstream from the Texas and Pacific Railway Co. bridge, 2.5 miles (4.0 km) upstream from mouth, and 4.0 miles (6.4 km) southwest of Colorado City.

DRAINAGE AREA.--322 mi² (834 km²), of which 32 mi² (83 km²) is probably noncontributing.

PERIOD OF RECORD.--Contents: April 1949 to current year.

Water quality: Chemical analyses: October 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level. Prior to Aug. 23, 1950, nonrecording gages at or near powerplant about 0.7 mile (1.1 km) downstream at same datum.

EXTREMES.--Current year: Maximum contents observed, 26,750 acre-ft (33.0 hm³) Oct. 1 (elevation, 2,066.88 ft or 629.985 m); minimum, 20,530 acre-ft (25.3 hm³) Sept. 17 (elevation, 2,062.18 ft or 628.552 m).

Period of record: Maximum contents, 40,280 acre-ft (49.7 hm³) Sept. 7, 1962 (elevation, 2,075.10 ft or 632.490 m); minimum since first appreciable storage, 5,800 acre-ft (7.15 hm³) Apr. 11-13, 1950 (elevation, 2,045.72 ft or 623.536 m).

REMARKS.--The lake is formed by a rolled earthfill dam 4,800 ft (1,460 m) long. Storage began in April 1949, and the dam was completed in September 1949. The dam and lake are owned and operated by Texas Electric Service Co. in the operation of their thermal electric powerplant. The uncontrolled emergency spillway is an excavated cut channel through natural ground 1,200 ft (366 m) wide located 600 ft (180 m) upstream and to the left of left end of dam. The spillway is designed to discharge 150,000 ft³/s (4,250 m³/s) at the maximum design flood elevation. The service spillway is an uncontrolled rectangular drop inlet located 100 ft (30 m) upstream from dam with two uncontrolled openings of 10.0 by 12.0 ft (3.0 by 3.7 m), which is designed for a maximum discharge of 5,000 ft³/s (142 m³/s). A service outlet is provided for small releases downstream through a 30-inch (762-millimeter) valve-controlled concrete pipe. Records furnished by the Texas Electric Service Co. indicate that 28 acre-ft (34,500 m³) was pumped from Champion Creek Reservoir (station 08123600) into Lake Colorado City during the current year. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	2,090.0	-
Design flood.....	2,086.7	70,700
Crest of spillway.....	2,073.7	37,850
Crest of service spillway (top of conservation pool).....	2,070.2	31,640
Lowest gated outlet (invert).....	2,024.3	316

COOPERATION.--Capacity curve furnished by Texas Electric Service Co. Record of diversions for municipal use furnished by city of Colorado City.

REVISIONS.--WSP 1922: Drainage area.

Capacity table (elevation, in feet, and contents, in acre-feet))

2,062.0	20,310
2,065.0	24,140
2,067.0	26,930

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26700	25960	25610	25220	24640	23960	23000	22980	21960	20610	22290	20730
2	26670	26210	25610	25190	24610	23940	22970	22960	21920	20550	22220	20710
3	26650	26310	25590	25160	24600	23910	22960	22920	21880	20550	22180	20670
4	26610	26310	25590	25130	24570	23870	22950	22950	21850	21040	22120	20640
5	26580	26310	25580	25120	24540	23820	22950	22890	21920	21870	22060	20610
6	26550	26280	25540	25110	24500	23780	22920	22890	21880	21970	22020	20670
7	26500	26270	25520	25060	24490	23780	22890	22870	21920	21970	21970	20730
8	26450	26240	25510	25040	24490	23780	22860	22840	21870	21920	21890	20830
9	26440	26230	25500	25020	24480	23760	22830	22830	21820	21850	21820	20810
10	26420	26180	25480	25020	24460	23740	22800	22800	21760	21870	21760	20780
11	26380	26160	25470	25010	24450	23710	22790	22780	21710	21870	21710	20750
12	26350	26100	25450	25000	24440	23670	23010	22720	21680	21940	21660	20710
13	26310	26080	25440	24970	24440	23630	23040	22670	21630	22310	21600	20670
14	26280	26060	25440	24970	24420	23620	23060	22650	21530	22380	21530	20640
15	26300	26030	25410	24940	24410	23590	23140	22630	21480	22380	21460	20600
16	26270	26030	25340	24940	24400	23560	23140	22580	21410	22360	21390	20560
17	26230	26000	25310	24910	24340	23520	23140	22530	21360	22560	21340	20530
18	26180	25980	25290	24900	24300	23480	23160	22510	21330	22580	21290	20810
19	26160	25970	25270	24890	24290	23460	23140	22450	21250	22540	21250	20970
20	26100	25920	25260	24870	24260	23410	23080	22420	21190	22440	21190	21040
21	26070	25870	25240	24860	24190	23370	23040	22420	21130	22400	21140	21080
22	26140	25840	25230	24840	24150	23340	23010	22380	21120	22450	21090	21070
23	26100	25820	25230	24830	24130	23310	22980	22350	21020	22510	21040	21040
24	26070	25790	25200	24830	24080	23300	22950	22330	20970	22560	21000	21020
25	26010	25760	25300	24790	24070	23270	22910	22290	20920	22540	20970	20980
26	25980	25720	25290	24760	24060	23230	22840	22240	20870	22560	20920	20940
27	25960	25700	25290	24750	24030	23200	22880	22180	20820	22520	20870	20940
28	25930	25690	25270	24720	24020	23160	23000	22160	20780	22470	20820	20910
29	25900	25690	25260	24710	23990	23100	23000	22100	20730	22420	20800	20890
30	25870	25630	25240	24700	---	23080	23010	22040	20670	22360	20760	20870
31	25820	---	25230	24650	---	23020	---	22010	---	22330	20760	---
(†)	2066.22	2066.09	2065.80	2065.38	2064.89	2064.16	2064.15	2063.37	2062.30	2063.62	2062.37	2062.46
(*)	-930	-190	-400	-580	-660	-970	-10	-1000	-1340	+1660	-1570	+110
(††)	112	92	75	86	109	72	88	103	139	188	151	157
MAX	26700	26310	25610	25220	24640	23960	23160	22980	21960	22580	22290	21080
MIN	25820	25630	25230	24650	23990	23020	22790	22010	20670	20550	20760	20530
CAL YR 1975.....	* -2480			†† 1360			MAX 27680	MIN 22790				
WTR YR 1976.....	* -5880			†† 1370			MAX 26700	MIN 20530				

† Elevation, in feet, at end of month.

* Change in contents, in acre-feet.

†† Diversions, in acre-feet, for municipal use.

COLORADO RIVER BASIN

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08123000 Lake Colorado City near Colorado City, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)
SFP 15...	1200	1970	8.0	26.0	450	310	90	54	230
DATE	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
SFP 15...	4.7	20	164	0	450	280	.8	6.8	1210

08123600 Champion Creek Reservoir near Colorado City, Tex.

LOCATION.--Lat 32°16'53", long 100°51'30", Mitchell County, in service outlet structure at Champion Creek Dam on Champion Creek, 0.9 mile (1.4 km) upstream from mouth, 4.8 miles (7.7 km) downstream from State Highway 208, and 7.2 miles (11.6 km) south of Colorado City.

DRAINAGE AREA.--203 mi² (526 km²).

PERIOD OF RECORD.--Contents: April 1959 to current year.

Water quality: Chemical analyses: October 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level. Prior to Sept. 29, 1959, nonrecording gage at same site and datum.

EXTREMES.--Current year: Maximum contents, 14,390 acre-ft (17.7 hm³) Sept. 27 (elevation, 2,057.17 ft or 627.025 m); minimum, 11,780 acre-ft (14.5 hm³) Apr. 9, 10; minimum elevation, 2,053.42 ft (625.882 m) Apr. 10.

Period of record: Maximum contents, 27,910 acre-ft (34.4 hm³) June 19, 1966 (elevation, 2,071.98 ft or 631.540 m); minimum, 1,600 acre-ft (1.97 hm³) Oct. 1, 1959 (elevation, 2,025.90 ft or 617.494 m).

REMARKS.--The reservoir is formed by a rolled earthfill dam about 6,800 ft (2,070 m) long. The dam was completed on Apr. 30, 1959. Closure and storage began in February 1959. Capacity curve is based on Geological Survey topographic map surveyed in 1950; excavation for borrow, estimated not to exceed 1,200 acre-ft (1.23 hm³), is not included. The dam and reservoir are owned and operated by Texas Electric Service Co. Water may be pumped from the reservoir through a 24-inch (610-millimeter) pipeline to Lake Colorado City (station 08123000) for municipal use and for cooling operations of a steam generating powerplant. There are two spillways. The emergency spillway, 450 ft (137 m) wide by 1,800 ft (549 m) long, is located at the right end of dam. The service spillway (a cut channel 50 ft or 15 m wide, about 1,800 ft or 549 m long, and 8 ft or 2 m deep) is cut into the emergency spillway at the extreme right end. There is a controlled drop-inlet structure, 4.0 by 5.0 ft (1.2 by 1.5 m), with a side opening of 1.5 by 3.0 ft (0.5 by 0.9 m). Data regarding the dam and reservoir are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	2,109.0	-
Design flood.....	2,104.1	90,020
Crest of spillway.....	2,091.0	56,800
Crest of spillway (top of conservation pool).....	2,083.0	42,500
Lowest gated opening (invert).....	2,020.0	880

COOPERATION.--Record of diversions into Lake Colorado City furnished by Texas Electric Service Co.

REVISIONS.--WSP 1922: Drainage area.

Capacity table (elevation, in feet, and contents, in acre-feet)

2,053.0	11,500
2,056.0	13,560
2,058.0	15,000

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12020	11920	12030	12070	12020	11960	11810	13590	13450	13040	13050	12640
2	12010	12150	12030	12050	12020	11960	11800	13400	13430	13020	13040	12630
3	12000	12170	12040	12050	12020	11960	11800	13580	13460	13040	13020	12620
4	11996	12170	12050	12050	12020	11950	11800	13570	13430	13030	13000	12620
5	11980	12180	12050	12040	12020	11940	11800	13600	13430	13030	12980	12600
6	11980	12170	12040	12060	12010	11930	11800	13610	13430	13010	12970	12630
7	11960	12180	12030	12030	12010	11940	11800	13580	13450	13000	12960	12630
8	11950	12170	12030	12030	12010	11940	11790	13570	13440	12990	12940	12960
9	11950	12170	12030	12030	12010	11940	11780	13570	13430	12970	12920	13070
10	11950	12160	12030	12040	12010	11950	11780	13570	13410	12980	12890	13060
11	11940	12160	12030	12040	12020	11960	11800	13570	13390	13010	12870	13050
12	11930	12130	12030	12040	12020	11950	12000	13560	13380	13020	12850	13040
13	11920	12130	12030	12050	12030	11930	12040	13540	13360	13030	12830	13150
14	11920	12130	12050	12030	12030	11930	12040	13520	13340	13050	12810	13240
15	11940	12120	12030	12040	12030	11940	12090	13520	13320	13050	12790	13230
16	11940	12120	12020	12040	12030	11920	12120	13530	13300	13040	12770	13220
17	11930	12120	12020	12040	12030	11910	12250	13520	13290	13050	12760	13220
18	11940	12120	12010	12040	12010	11900	12260	13500	13280	13050	12740	14110
19	11910	12120	12010	12040	12010	11900	12260	13490	13260	13040	12730	14340
20	11910	12110	12010	12040	12010	11890	12250	13480	13240	13010	12710	14380
21	11900	12100	12000	12030	11990	11880	12240	13480	13210	13000	12690	14370
22	11940	12080	12010	12030	11980	11880	12240	13470	13200	13050	12680	14360
23	11930	12080	12010	12040	11970	11870	12240	13470	13170	13040	12660	14360
24	11940	12070	12060	12040	11960	11880	12230	13520	13160	13040	12650	14360
25	11910	12070	12060	12040	11960	11880	12220	13540	13150	13110	12640	14350
26	11900	12050	12070	12030	11960	11860	12210	13520	13130	13120	12620	14350
27	11900	12050	12070	12030	11960	11860	12200	13510	13120	13110	12610	14390
28	11900	12050	12070	12030	11960	11850	13150	13500	13100	13100	12590	14380
29	11890	12050	12070	12030	11960	11840	13570	13490	13080	13090	12580	14380
30	11880	12050	12070	12030	---	11820	13590	13480	13070	13080	12590	14380
31	11880	---	12070	12020	---	11820	---	13460	---	13060	12590	---
(+)	2053.57	2053.83	2053.86	2053.79	2053.70	2053.48	2056.04	2055.86	2055.30	2055.29	2054.62	2057.16
(+)	-160	+170	+20	-50	-60	-140	+1770	-130	-390	-10	-470	+1790
(††)	0	0	0	0	0	0	0	12	0	8	8	0
MAX	12020	12180	12070	12070	12030	11960	13590	13610	13460	13120	13050	14390
MIN	11880	11920	12000	12020	11960	11820	11780	13460	13070	12970	12580	12600
CAL YR 1975.....	+ 3350				†† 0		MAX 12200	MIN 8570				
WTR YR 1976.....	+ 2340				†† 28		MAX 14390	MIN 11780				

† Elevation, in feet, at end of month.

+ Change in contents, in acre-feet.

†† Diversions, in acre-feet, into Lake Colorado City.

COLORADO RIVER BASIN

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08123600 Champion Creek Reservoir near Colorado City, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA+MG) (MG/L)	NON-CAP-BONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG)	DIS-SOLVED SODIUM (NA) (MG/L)
SFP 15...	0930	1030	8.1	24.0	370	230	82	39	68
DATE	SODIUM ADSORPTION RATIO	DIS-SOLVED PHOSPHATE (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SI02) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
SFP 15...	1.5	9.2	168	0	270	76	.7	2.9	631

COLORADO RIVER BASIN

08123650 Beals Creek above Big Spring, Tex.

LOCATION.--Lat 32°15'01", long 101°29'26", Howard County, on left bank at end of Channing Street in Big Spring, just downstream from One-mile Lake, 2.9 miles (4.7 km) upstream from Little Sandy Creek, 7.5 miles (12.1 km) downstream from confluence of Sulphur Springs Creek and Mustang Draw, and at mile 71.1 (114.4 km).

DRAINAGE AREA.--9,409 mi² (24,369 km²), of which 8,915 mi² (23,090 km²) is probably noncontributing.

PERIOD OF RECORD.--Discharge: January 1959 to current year.

Water quality: Chemical analyses: April 1973 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 2,400.02 ft (731.526 m) above mean sea level.

AVERAGE DISCHARGE.--17 years, 1.24 ft³/s (0.0351 m³/s), 898 acre-ft/yr (1.11 hm³/yr).

EXTREMES.--Discharge: Current year: Maximum discharge, 97 ft³/s (2.75 m³/s) May 21 (gage height, 4.12 ft or 1.256 m); no flow for many days.

Period of record: Maximum discharge, 255 ft³/s (7.22 m³/s) Sept. 6, 1962 (gage height, 5.95 ft or 1.814 m); no flow most of time. Historic: Flood of May 10, 1957, was highest known since 1932, from comparison of floods at a point 4 miles (6 km) downstream, from information by City Engineering Department. Flood of June 12, 1938, reached a stage of about 7.6 ft (2.32 m) at present site and datum, from information by Texas and Pacific Railway Co.

Water quality: Current year: Maximum daily specific conductance, 43,500 micromhos Apr. 12; minimum daily, 4,440 micromhos May 21. Maximum water temperatures, 32.0°C June 2; minimum, 1.0°C Dec. 18, 19.

Period of record: Maximum daily specific conductance, 74,000 micromhos May 9, 1974; minimum daily, 2,800 micromhos May 23, 1975. Maximum water temperatures, 34.0°C June 15, 16, 1973; minimum, 1.0°C Dec. 18, 19, 1975.

REMARKS.--Discharge records good. Runoff from contributing drainage area is largely regulated by several natural salt lakes. Records of diversions from Threemile and Fourmile Lakes (natural lakes upstream from gage on Beals Creek) into Natural Salt Lake (natural lake on Sulphur Springs) 7.0 miles (11.3 km) upstream from gage were furnished by the Colorado River Municipal Water District.

REVISIONS (WATER YEARS).--WSP 1732: 1959(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.86	.05	.09	.55	.17	0	0	.44	.63	0	.04	
2	.82	.68	.07	.50	.16	0	0	.39	.52	0	.02	
3	.70	.81	.08	.47	.18	0	0	.25	.41	0	.01	
4	.66	.80	.09	.46	.13	.03	0	.17	.31	0	0	
5	.58	.78	.10	.47	.12	0	0	.43	.23	.01	0	
6	.52	.75	.07	.46	.12	0	0	.43	.16	.02	0	
7	.45	.69	.07	.43	.15	0	0	.42	.11	.02	0	
8	.40	.64	.08	.39	.16	0	0	.41	.09	.02	0	
9	.35	.59	.08	.38	.15	0	0	.42	.07	.01	0	
10	.31	.51	.08	.38	.16	0	0	.41	.04	.01	0	
11	.25	.50	.07	.36	.12	.02	0	.34	.03	.02	0	
12	.19	.44	.07	.38	.12	0	.05	.28	.02	.04	0	
13	.14	.42	.07	.33	.12	0	.46	.22	.01	.06	0	
14	.12	.38	.07	.29	.11	0	.36	.14	0	.06	0	
15	.12	.34	.07	.33	.12	0	.54	.10	0	.07	0	
16	.13	.33	.07	.28	.13	0	.82	.07	0	.25	0	
17	.10	.30	.07	.29	.19	0	.85	.04	0	.55	0	
18	.08	.26	.07	.28	.07	0	.68	.03	0	.62	0	
19	.07	.31	.07	.23	.05	0	.66	.02	0	.76	0	
20	.05	.25	.08	.23	.14	0	.52	.12	0	.63	0	
21	.04	.19	.09	.23	.03	0	.40	.87	0	.51	0	
22	.12	.20	.10	.23	.02	0	.30	.01	0	.49	0	
23	.17	.19	.09	.25	.02	0	.23	.24	0	.58	0	
24	.14	.17	.44	.24	.01	0	.18	8.7	0	.53	0	
25	.10	.18	.66	.24	.01	0	.12	5.0	0	.47	0	
26	.11	.17	.66	.21	.01	0	.08	3.0	0	.39	0	
27	.12	.14	.65	.21	.01	0	.05	2.0	0	.29	0	
28	.10	.12	.63	.22	.01	0	.06	1.5	0	.17	0	
29	.08	.24	.62	.20	.01	0	.42	1.2	0	.08	0	
30	.07	.16	.60	.21	---	0	.44	.98	0	.07	0	
31	.04	---	.57	.20	---	0	---	.76	---	.05	0	---
TOTAL	7.99	11.59	6.63	9.93	2.80	.05	7.22	212.15	2.63	6.78	.07	0
MEAN	.26	.39	.21	.32	.097	.002	.24	6.84	.088	.22	.002	0
MAX	.86	.81	.66	.55	.19	.03	.85	.87	.63	.76	.04	0
MIN	.04	.05	.07	.20	.01	0	0	.02	0	0	0	0
AC-FT	16	23	13	.20	5.6	.10	14	421	5.2	13	.1	0
(†)	174	148	114	123	93	72	40	57	151	165	106	8.4
CAL YR 1975 TOTAL	2974.37			MEAN 8.15	MAX 185	MIN 0	AC-FT 5900	† 1580				
WTR YR 1976 TOTAL	267.84			MEAN .73	MAX 87	MIN 0	AC-FT 531	† 1250				

† Diversions, in acre-feet, from creek for brine disposal by Colorado River Municipal Water District.

08123650 Beals Creek above Big Spring, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG)	DIS-SOLVED SODIUM (NA) (MG/L)
OCT. 31...	1645	.05	16000	7.7	20.0	3700	3600	370	680	2500
NOV. 13...	1445	.36	21300	6.9	15.0	4500	4400	240	950	3600
DEC. 01...	1715	.45	24600	7.6	13.0	5400	5300	530	1000	4100
JAN. 29...	1345	.25	28500	7.7	10.5	7300	7200	610	1400	5000
FEB. 01...	0945	.25	29600	7.6	6.0	7300	7200	610	1400	5200
MAR. 01...	1200	.02	34900	7.7	22.0	8800	8700	730	1700	6200
APR. 12...	1715	.15	43500	7.5	22.0	12000	12000	900	2300	8300
MAY 01...	0950	.55	36600	7.5	15.0	9600	9400	700	1900	6400
JUNE 01...	1203	.32	23600	7.6	27.0	5600	5600	440	1100	4000
JULY 06...	1410	.03	37600	6.8	29.0	9500	9400	660	1900	6600
AUG. 01...	0900	.06	34500	7.6	25.0	8200	8100	630	1600	6200

DATE	SODIUM ADSORPTION RATIO	DIS-SOLVED PHOSPHATE-SILICUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SiO2) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
OCT. 31...	18	86	151	0	2700	4300	.9	3.3	10700
NOV. 13...	23	120	128	0	3800	6000	1.6	.8	14800
DEC. 01...	24	120	135	0	4900	7000	--	.6	17700
JAN. 29...	26	130	122	0	5900	9100	--	.5	22200
FEB. 01...	27	130	128	0	6000	9200	1.4	.3	22600
MAR. 01...	29	170	160	0	7300	10000	--	.3	26200
APR. 12...	33	220	168	0	9600	14000	--	.2	35400
MAY 01...	28	180	168	0	7800	11000	--	.9	28100
JUNE 01...	23	110	92	0	4500	7200	--	.6	17400
JULY 06...	30	180	98	0	7400	12000	--	1.1	28800
AUG. 01...	30	160	122	0	6400	11000	--	.6	26100

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

MONTH	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCTANCE (MICROMHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA+MG) (MG/L)
OCT. 1975.....	7.99	16200	10900	235	4620	100	2900	62	****
NOV. 1975.....	11.59	18600	12800	401	5400	169	3420	107	****
DEC. 1975.....	6.63	24100	17500	313	7270	130	4680	84	****
JAN. 1976.....	9.93	27000	20100	538	8270	222	5360	143	****
FEB. 1976.....	2.79	30600	23300	175	9490	72	6170	46	****
MAR. 1976.....	0.05	36000	28100	3.8	11300	1.5	7400	1	****
APR. 1976.....	7.22	36400	28400	554	11500	223	7490	146	****
MAY 1976.....	212.15	7760	4970	2850	2090	1200	1340	768	1480
JUNE 1976.....	2.63	27400	20500	145	8410	60	5450	39	****
JULY 1976.....	6.78	32700	25200	461	10200	187	6660	122	****
AUG. 1976.....	0.07	34400	26700	5	10800	2.1	7040	1.4	****
SEPT 1976.....	0	*****	*****	0	*****	0	*****	0	****
TOTAL	267.83	**	**	5680	**	2370	**	1520	**
WTD.AVG.	0.73	11400	7900	**	3300	**	2100	**	*****

COLORADO RIVER BASIN

08123650 Beals Creek above Big Spring, Tex.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14600	20400	24200	25800	29200	---	---	36600	23600	---	34300	---
2	14900	18000	24500	25800	29200	---	---	37900	26500	---	34500	---
3	14900	15000	24500	25800	29600	---	---	38300	29300	---	34500	---
4	14900	14800	24400	26200	29600	35700	---	---	38500	29700	---	---
5	15400	14800	24800	26300	29600	---	---	38300	29600	36200	---	---
6	15600	15200	24800	26400	29600	---	---	37300	28700	37700	---	---
7	16000	15600	24800	26500	29700	---	---	37300	28700	38200	---	---
8	16200	15900	24900	26800	29800	---	---	38100	29000	37100	---	---
9	16500	16300	25000	26800	30000	---	---	38100	29300	37500	---	---
10	16900	18100	25200	26800	30000	---	---	38300	29500	37100	---	---
11	16900	19300	25200	26900	30700	36400	---	38100	29900	36200	---	---
12	16900	20000	25300	27000	30800	---	43500	38800	31100	32700	---	---
13	17400	21300	25300	27100	31100	---	25200	39500	31600	35100	---	---
14	17700	21000	25300	27100	31100	---	40600	40000	---	35100	---	---
15	17700	21400	25600	27300	31300	---	38100	39400	---	35000	---	---
16	18000	22000	25800	27300	31500	---	35900	40200	---	32400	---	---
17	18000	21600	25900	27400	31900	---	35600	40400	---	31300	---	---
18	18000	21800	25900	27400	32200	---	36100	41200	---	30900	---	---
19	18500	22000	26200	27600	32400	---	36500	41200	---	32000	---	---
20	18500	22200	26200	27800	32400	---	37000	40000	---	33300	---	---
21	18900	22400	26300	28000	33300	---	37300	44400	---	33900	---	---
22	18900	22600	26300	28000	33400	---	37400	57800	---	33700	---	---
23	18900	22700	26300	28000	33400	---	37800	50700	---	32800	---	---
24	18900	22400	14800	28100	33900	---	38400	22000	---	32400	---	---
25	18900	23100	21700	28100	34100	---	38600	15600	---	32600	---	---
26	19300	23400	23400	28200	34300	---	39100	15000	---	33000	---	---
27	20000	23400	24400	28300	34400	---	39500	19200	---	33000	---	---
28	20000	23400	25100	28400	34500	---	39600	20100	---	33300	---	---
29	20000	23400	25600	28400	35100	---	38600	22200	---	33300	---	---
30	20400	24000	25700	28500	---	---	36200	22000	---	33500	---	---
31	20400	---	25700	26500	---	---	---	22500	---	33900	---	---
MONTH	17700	20300	24800	27200	31700	---	---	29400	---	34200	---	---

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.0	---	13.0	5.0	6.0	---	---	15.0	27.0	---	25.0	---
2	19.0	---	9.0	12.0	11.0	---	---	16.0	32.0	---	29.0	---
3	24.0	---	17.0	3.0	15.0	---	---	21.0	29.0	---	27.0	---
4	14.0	---	15.0	2.0	12.0	17.0	---	21.0	27.0	---	---	---
5	16.0	---	15.0	5.0	10.0	---	---	23.0	22.0	23.0	---	---
6	23.0	---	13.0	8.0	6.0	---	---	24.0	23.0	28.0	---	---
7	22.0	---	8.0	4.0	3.0	---	---	15.0	27.0	29.0	---	---
8	24.0	---	13.0	6.0	5.0	---	---	15.0	27.0	29.0	---	---
9	27.0	---	12.0	8.0	15.0	---	---	17.0	27.0	25.0	---	---
10	26.0	---	15.0	3.0	17.0	---	---	24.0	28.0	22.0	---	---
11	19.0	---	13.0	3.0	19.0	20.0	---	27.0	30.0	23.0	---	---
12	19.0	---	11.0	10.0	17.0	---	22.0	28.0	24.0	22.0	---	---
13	26.0	---	13.0	11.0	19.0	---	25.0	24.0	23.5	23.0	---	---
14	24.0	---	14.0	10.0	15.0	---	27.0	28.0	---	24.0	---	---
15	19.0	---	11.0	11.0	13.0	---	24.0	17.0	---	25.0	---	---
16	25.0	---	11.0	12.0	12.0	---	20.0	18.0	---	25.0	---	---
17	22.0	---	4.0	5.0	17.0	---	17.0	21.0	---	28.0	---	---
18	12.0	---	1.0	8.0	13.0	---	13.0	30.0	---	24.0	---	---
19	21.0	---	1.0	9.0	14.0	---	23.0	25.0	---	30.0	---	---
20	21.0	---	2.0	12.0	17.0	---	20.0	21.5	---	29.0	---	---
21	22.0	---	3.0	12.0	14.0	---	22.0	20.5	---	29.0	---	---
22	22.0	5.0	11.0	11.0	3.0	---	24.0	20.0	---	25.0	---	---
23	23.0	4.0	7.0	13.0	12.0	---	25.0	21.0	---	28.0	---	---
24	21.0	10.0	3.0	8.0	9.0	---	25.0	31.0	---	24.0	---	---
25	11.0	12.0	8.0	7.0	14.0	---	18.0	24.0	---	23.0	---	---
26	12.0	9.0	3.0	9.0	16.0	---	27.0	23.0	---	30.0	---	---
27	24.0	2.0	5.0	14.0	17.0	---	24.0	23.0	---	27.0	---	---
28	21.0	10.5	6.0	9.0	13.0	---	23.0	26.0	---	28.0	---	---
29	21.0	11.0	6.0	11.0	22.0	---	18.0	25.0	---	29.0	---	---
30	21.0	5.0	10.0	15.0	---	---	20.0	21.0	---	28.0	---	---
31	20.0	---	4.0	7.0	---	---	---	21.0	---	23.0	---	---
MONTH	20.5	---	9.0	8.5	13.0	---	---	22.5	---	26.0	---	---

COLORADO RIVER BASIN

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08123800 Beals Creek near Westbrook, Tex.
(National stream-quality accounting network)

LOCATION.--Lat 32°11'57", long 101°00'49", Mitchell County, on left bank at downstream side of bridge on State Highway 163, 2.1 miles (3.4 km) downstream from Hackberry Creek, 10.8 miles (17.4 km) south of Westbrook, 15.7 miles (25.3 km) southwest of Colorado City, and at mile 19.9 (32.0 km).

DRAINAGE AREA.--9,903 mi² (25,648 km²), of which 8,930 mi² (23,130 km²) is probably noncontributing.

PERIOD OF RECORD.--Discharge: October 1958 to current year.

Water quality: Chemical analyses: November 1958 to current year. Water temperatures: November 1958 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,048.74 ft (624.456 m) above mean sea level.

AVERAGE DISCHARGE.--18 years, 24.4 ft³/s (0.691 m³/s), 0.34 in/yr (9 mm/yr), 17,680 acre-ft/yr (21.8 hm³/yr).

EXTREMES.--Discharge: Current year: Maximum discharge, 1,370 ft³/s (38.8 m³/s) July 5 (gage height, 11.10 ft or 3.383 m); minimum, 0.03 ft³/s (0.001 m³/s) July 3.

Period of record: Maximum discharge, 8,780 ft³/s (249 m³/s) May 19, 1961 (gage height, 21.65 ft or 6.599 m); no flow at times.

Historic: Maximum stage since 1908, about 24.5 ft (7.47 m) in 1922, from information by local resident.

Water quality: Current year: Maximum daily specific conductance, 12,300 micromhos Aug. 7; minimum daily, 535 micromhos Sept. 19.

Maximum water temperatures, 37.0°C July 3; minimum, 3.0°C Dec. 19, Jan. 3, 9.

Period of record: Maximum daily specific conductance, 22,800 micromhos June 2, 1969; minimum daily, 219 micromhos Sept. 13, 1964.

Maximum water temperatures, 37.0°C June 28, 1960, and July 3, 1976; minimum, freezing point Jan. 7, 1971, and Jan. 9, 1973.

REMARKS.--Discharge records good. Low flow is affected by diversion upstream from station, see station 08123650.

REVISIONS (WATER YEARS).--WRD Texas 1972: 1971.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.8	4.5	4.0	6.1	4.6	4.0	2.4	13	3.4	.21	3.7	32
2	5.6	239	3.9	5.9	4.6	3.8	2.5	6.9	2.9	.09	3.7	18
3	5.1	90	3.9	5.4	4.4	3.6	2.7	4.9	2.6	20	3.4	6.9
4	5.6	21	4.4	5.0	4.2	3.6	2.8	4.3	2.7	325	3.3	4.4
5	4.9	8.1	4.6	5.1	4.1	3.5	3.0	6.0	2.7	756	3.6	3.0
6	4.6	6.5	4.6	5.1	4.1	3.3	3.1	22	66	278	2.9	29
7	4.3	5.7	4.6	5.3	4.2	3.5	3.4	19	6.9	22	2.6	67
8	4.2	5.3	4.5	5.5	4.6	3.7	3.6	18	3.2	9.8	2.3	158
9	4.4	4.8	4.4	4.4	4.7	4.2	3.0	6.6	2.6	6.8	2.0	267
10	4.0	4.6	4.5	4.6	4.7	4.7	3.2	5.7	2.2	5.3	1.8	13
11	3.8	4.4	4.6	5.1	4.2	4.6	2.6	4.5	2.2	12	1.4	6.6
12	3.7	4.1	4.8	5.3	4.0	3.9	3.1	4.0	2.2	114	1.6	4.5
13	3.7	4.2	5.0	5.1	3.9	3.6	36	3.8	1.9	53	1.5	3.7
14	3.5	4.0	5.2	4.9	3.8	3.5	72	3.1	1.6	24	1.4	3.2
15	8.4	4.0	4.5	5.0	3.4	3.4	19	2.8	1.3	102	1.5	3.4
16	5.3	4.0	4.4	4.9	4.1	3.3	23	2.8	.97	14	1.5	3.7
17	8.5	4.3	4.4	5.1	4.2	3.3	49	2.8	.67	12	1.3	3.7
18	6.2	4.4	4.1	4.8	3.5	3.3	28	2.8	.82	40	1.2	163
19	4.6	4.2	4.2	4.8	3.7	3.6	12	2.4	1.1	17	1.0	701
20	4.1	4.0	4.1	4.8	3.3	3.3	6.0	2.6	.70	30	.55	139
21	4.0	3.9	4.3	4.4	2.8	3.1	4.9	2.8	.62	9.5	.32	45
22	8.7	4.3	4.7	4.6	3.4	3.0	4.7	27	.66	9.3	.38	14
23	29	4.0	4.7	5.3	3.4	2.9	4.3	86	.57	103	1.1	8.8
24	23	4.0	7.3	5.0	3.1	2.9	4.0	55	.40	20	1.1	6.8
25	6.1	4.1	14	5.2	3.2	3.1	3.7	28	.47	10	1.2	5.9
26	3.0	3.9	31	4.7	3.5	2.8	3.7	14	1.0	6.7	.89	5.7
27	3.5	4.0	11	4.7	3.6	3.2	3.5	9.1	.69	5.4	1.4	5.5
28	3.9	4.2	7.6	4.6	3.7	3.0	4.9	7.0	.43	4.7	1.2	11
29	4.2	4.6	6.5	4.6	4.0	3.0	56	5.9	.31	4.3	1.4	20
30	4.2	4.1	6.0	4.9	---	2.9	27	4.9	.16	3.9	1.3	14
31	4.5	---	6.0	4.7	---	2.8	---	4.0	---	3.6	5.6	---
TOTAL	194.4	472.2	191.8	154.9	113.0	106.4	397.1	381.7	113.97	2021.60	58.14	1766.8
MEAN	6.27	15.7	6.19	5.00	3.90	3.43	13.2	12.3	3.80	65.2	1.88	58.9
MAX	29	239	31	6.1	4.7	4.7	72	86	66	756	5.6	701
MIN	3.0	3.9	3.9	4.4	2.8	2.8	2.4	2.4	.16	.09	.32	3.0
AC-FT	386	937	380	307	224	211	788	757	226	4010	115	3500
CAL YR 1975 TOTAL	15177.70											
WTR YR 1976 TOTAL	5972.01											
MEAN	41.6											
MAX	2550											
MIN	1.6											
AC-FT	30100											
WTR YR 1976 TOTAL	5972.01											
MEAN	16.3											
MAX	756											
MIN	.09											
AC-FT	11850											

PEAK DISCHARGE (BASE, 900 FT³/S).--July 5 (1730) 1,370 ft³/s (11.10 ft); Sept. 19 (1000) 1,200 ft³/s (10.22 ft).

COLORADO RIVER BASIN

08123800 Beals Creek near Westbrook, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	RIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)	IMME- DIATE COLI- FORM (COL. PER 100 ML)	FECAL COLI- FORM (COL. PER 100 ML)	STREP- TOCOCCI (COL- ONIFS PER 100 ML)
OCT. 13...	1545	3.3	10700	8.5	26.0	15	9.2	115	16	180	48	200
NOV. 04...	0900	20	2830	7.8	16.0	220	8.4	85	7.0	1600	1400	900
DEC. 01...	1645	4.1	10400	8.3	9.0	15	19.1	169	9.0	24	24	34
JAN. 06...	0900	5.5	8350	8.9	4.5	3	13.8	109	2.6	5	5	24
FEB. 16...	1705	4.8	10700	10.0	17.0	45	>19.7	>210	34	8	2	180
MAR. 16...	0930	3.1	10600	9.1	11.0	15	12.8	119	15	16	13	46
APR. 19...	1530	10	5530	7.9	25.5	55	8.5	104	7.2	320	130	100
MAY 25...	1000	26	7690	7.7	24.0	150	6.1	73	9.3	4600	360	940
JUNE 24...	1630	.75	3840	8.9	30.0	45	11.9	159	6.9	2100	50	670
JULY 20...	1015	45	3670	8.1	25.0	60	7.3	91	13	7600	480	720
AUG. 02...	1615	3.5	8720	8.7	34.0	20	13.8	200	8.7	4000	120	110
SEP. 14...	1000	2.2	1980	8.2	24.0	30	7.2	88	4.2	3700	320	880
DATE	HARD- NESS (CA, MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)
OCT. 13...	2300	2200	290	380	1700	15	39	156	8	1700	2900	--
NOV. 04...	570	460	110	71	370	6.8	12	120	0	370	650	.6
DEC. 01...	2200	1900	290	350	1600	15	35	266	0	1600	2700	1.0
JAN. 06...	1700	1500	250	250	1200	13	22	120	20	1200	2000	.7
FEB. 16...	2300	2200	330	360	1700	15	33	38	30	1900	2800	.9
MAR. 16...	2300	2200	330	360	1600	15	35	94	20	1700	2900	1.0
APR. 19...	1200	1100	190	180	770	9.6	20	168	0	1400	900	.8
MAY 25...	1700	1600	210	290	1200	13	30	136	0	1200	2000	.5
JUNE 24...	810	620	160	100	560	8.6	15	198	22	460	1000	.8
JULY 20...	730	610	130	99	500	8.0	19	150	0	490	850	.6
AUG. 02...	1800	1700	290	260	1300	13	24	118	6	1200	2300	.8
SEP. 14...	420	310	87	48	250	5.3	11	128	0	260	420	.5
DATE	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	SUS- PENDED SEDI- MENT (MG/L)	SUS- PENDED SEDI- MENT DIS- CHARGE (T/DAY)	SUS- SED. SIEVE DIAM. % FINER THAN .062 MM
OCT. 13...	1.4	7560	7100	.00	.01	.03	1.5	.23	14	16	.14	96
NOV. 04...	6.9	1720	1650	.57	.12	.63	1.3	.89	--	306	17	100
DEC. 01...	.4	6980	6710	1.4	.14	.21	1.8	1.9	--	8	.09	97
JAN. 06...	7.8	5480	5010	1.3	.04	.10	.89	1.2	--	6	.09	62
FEB. 16...	2.8	7310	7180	.49	.46	.12	5.7	.89	23	44	.57	88
MAR. 16...	.8	7190	6990	.00	.01	.18	2.7	.64	--	9	.08	83
APR. 19...	9.9	3660	3550	.56	.41	1.4	1.0	1.6	--	10	.29	94
MAY 25...	9.2	5260	5010	.63	.30	.52	1.5	1.2	--	296	21	100
JUNE 24...	2.5	2600	2420	.01	.00	.12	1.1	.51	5.1	30	.06	95
JULY 20...	8.7	2310	2170	.83	.17	.07	1.1	.86	--	179	22	99
AUG. 02...	3.1	5650	5450	.00	.01	.04	2.4	.21	54	65	.61	98
SEP. 14...	7.1	1180	1150	.10	.03	.01	.99	.38	--	73	.43	98

COLORADO RIVER BASIN

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08123800 Beals Creek near Westbrook, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	DIS-SOLVED ALUMINUM (AL) (UG/L)	TOTAL ARSENIC (AS) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	TOTAL CADMIUM (CD) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	TOTAL CHROMIUM (CR) (UG/L)	DIS-SOLVED CHROMIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)
OCT. 13...	1545	0	3	2	620	0	0	<10	0	0
FEB. 16...	1705	40	6	4	690	0	0	<10	3	0
JUNE 24...	1630	30	10	10	--	0	0	20	0	0
AUG. 02...	1615	30	8	6	--	0	0	<10	0	0

DATE	DIS-SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	TOTAL MANGANESE (MN) (UG/L)
OCT. 13...	0	2	4	330	30	0	0	240	160
FEB. 16...	0	10	2	240	40	0	0	240	480
JUNE 24...	0	10	2	560	20	27	0	100	260
AUG. 02...	0	7	2	570	20	4	0	170	200

DATE	DIS-SOLVED MANGANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	TOTAL SELENIUM (SE) (UG/L)	DIS-SOLVED SELENIUM (SE) (UG/L)	DIS-SOLVED STRONTIUM (SR) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
OCT. 13...	70	.0	.0	0	1	1	6000	10	8
FEB. 16...	10	.0	.0	3	1	0	6300	30	0
JUNE 24...	20	.3	.2	0	0	0	2400	80	20
AUG. 02...	40	.1	.1	3	1	1	4700	40	20

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PERIPHYTON

Date	Length of exposure (days)	Biomass (g/m ²)		Chlorophyll a (mg/m ²)	Chlorophyll b (mg/m ²)	Biomass pigment ratio	Sampling method
		Dry weight	Ash weight				
NOV. 04	22	4.4	3.3	0.7	0.0	1500	Polyethylene strip
JAN. 06	36	11	7.2	16	.8	230	Polyethylene strip
MAR. 16	29	31	27	22	.1	170	Polyethylene strip
JULY 20	26	11.8	10.2	1.25	.000	1200	Polyethylene strip

08123800 Beals Creek near Westbrook, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

OCT. 13, 1975 1545 HOURS

PHYTOPLANKTON 37,000 CELLS/ML

ORGANISM__NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
...OCCYSTACEAE		
...ANKISTRODESMUS		0
...KIRCHNERIELLA	330	1
...OOCYSTIS		0
...SCENEDESMACEAE		
...SCENEDESMUS	2,600	7
..VOLVOCALES		
..CHLAMYDOMONADACEAE		
...CHLAMYDOMONAS		0
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINODISCAEAE		
...CYCLOTELLA	820	2
..PENNALES		
...NAVICULACEAE		
...NAVICULA		
...NITZSCHIAEAE		
...NITZSCHIA	6,100	16
CYANOPHYTA		
..MYXOPHYCEAE		
..OSCILLATORIALES		
...NOSTOCACEAE		
...ANABAENA	6,600	18
...OSCILLATORIAEAE		
...OSCILLATORIA	20,000	55
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
..EUGLENALES		
...EUGLENACEAE		
....EUGLENA		0

NOV. 4, 1975 0900 HOURS

PHYTOPLANKTON 6,500 CELLS/ML

ORGANISM__NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
...MICRACTINIACEAE		
...MICRACTINIUM	460	7
...OCCYSTACEAE		
...ANKISTRODESMUS	110	2
..VOLVOCALES		
..CHLAMYDOMONADACEAE		
...CHLAMYDOMONAS	230	4
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..PENNALES		
...NAVICULACEAE		
...NAVICULA	110	2
...NITZSCHIAEAE		
...NITZSCHIA	3,400	53
...SURIPELLACEAE		
...CYMATOPLEURA	1,000	16
CYANOPHYTA		
..MYXOPHYCEAE		
..OSCILLATORIALES		
...OSCILLATORIAEAE		
...PHORMIDIUM	1,100	18

DEC. 1, 1975 1645 HOURS

PHYTOPLANKTON 180,000 CELLS/ML

ORGANISM__NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
...CHARACIACEAE		0
...SCHROEDERIA		
...SCENEDESMACEAE		
...SCENEDESMUS		0
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINODISCAEAE		
...CYCLOTELLA	170,000	97
..PENNALES		
...NAVICULACEAE		
...AMPHIPRORA		0
...NAVICULA		0
...NITZSCHIAEAE		
...NITZSCHIA		0
...SURIPELLACEAE		
...SURIPELLA		0
CYANOPHYTA		
..MYXOPHYCEAE		
..OSCILLATORIALES		
...OSCILLATORIAEAE		
...OSCILLATORIA		0
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
..EUGLENALES		
...EUGLENACEAE		
....EUGLENA		0
....LEPOTINCLIS	6,000	3

JAN. 6, 1976 0900 HOURS

PHYTOPLANKTON 1,900 CELLS/ML

ORGANISM__NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
...OCCYSTACEAE		
...OOCYSTIS	740	39
..VOLVOCALES		
..CHLAMYDOMONADACEAE		
...CHLAMYDOMONAS	120	6
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINODISCAEAE		
...CYCLOTELLA	1,000	55
...MELOSIRA		0
..PENNALES		
...NAVICULACEAE		
...AMPHIPRORA		0
...GYROSIGMA		0
...NITZSCHIAEAE		
...NITZSCHIA		0
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
..EUGLENALES		
...EUGLENACEAE		
....EUGLENA		0

FEB. 16, 1976 1705 HOURS

PHYTOPLANKTON 13,000 CELLS/ML

ORGANISM__NAME	CELLS/ML	PER_CENT
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINODISCAEAE		
...CYCLOTELLA	7,100	52
...MELOSIRA		0
..PENNALES		
...NAVICULACEAE		
...AMPHIPRORA	360	3
...GYROSIGMA		0
...NAVICULA	5,200	38
...NITZSCHIAEAE		
...NITZSCHIA	540	4
...SURIPELLACEAE		
...SURIPELLA	91	1
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
..EUGLENALES		
...EUGLENACEAE		
....EUGLENA	270	2

08123800 Beals Creek near Westbrook, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

MAR. 16, 1976 0930 HOURS

PHYTOPLANKTON 54,000 CELLS/ML

_ORGANISM__NAME_____	CELLS/ML	PER_CENT
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
...CENTRALES		
...COSCINODISCAEAE		
...CYCLOTELLA	39,000	71
...PENNALES		
...NITZSCHIAEAE		
...NITZSCHIA	1,700	3
...SURIPELLACEAE		
...SURIPELLA	860	2
CYANOPHYTA		
..MYXOPHYCEAE		
..OSCILLATORIALES		
..OSCILLATORIAEAE		
...OSCILLATORIA	13,000	24

APR. 19, 1976 1530 HOURS

PHYTOPLANKTON 3,800 CELLS/ML

_ORGANISM__NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...VOLVOCELES		
...CHLAMYDOMONADACEAE		
...CHLAMYDOMONAS	480	12
...CHLOROGONIUM	96	2
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
...PENNALES		
...CYMBELLACEAE		
...CYMBELLA	580	15
...NAVICULACEAE		
...NAVICULA	290	7
...NITZSCHIAEAE		
...NITZSCHIA	190	5
...NITZSCHIA	860	22
CYANOPHYTA		
..MYXOPHYCEAE		
..OSCILLATORIALES		
..OSCILLATORIAEAE		
...OSCILLATORIA	1,100	27
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
..EUGLENALES		
..EUGLENACEAE		
...TRACHELOMONAS	290	7

MAY 25, 1976 1000 HOURS

PHYTOPLANKTON 16,000 CELLS/ML

_ORGANISM__NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...OCCYSTACEAE		
...OCCYSTIS	450	3
...SCENEDESMACEAE		
...SCENEDESMUS		0
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
...CENTRALES		
...COSCINODISCAEAE		
...CYCLOTELLA	1,000	6
...PENNALES		
...CYMBELLACEAE		
...CYMBELLA	340	2
...NAVICULACEAE		
...NAVICULA	790	5
...NITZSCHIAEAE		
...NITZSCHIA	2,000	13
...SURIPELLACEAE		
...SURIPELLA		0
CYANOPHYTA		
..MYXOPHYCEAE		
..OSCILLATORIALES		
..OSCILLATORIAEAE		
...OSCILLATORIA	11,000	71

JUNE 24, 1976 1630 HOURS

PHYTOPLANKTON 130,000 CELLS/ML

_ORGANISM__NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...OCCYSTACEAE		
...ANKISTRODESMUS	800	1
...SCENEDESMACEAE		
...SCENEDESMUS	3,200	2
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
...CENTRALES		
...COSCINODISCAEAE		
...CYCLOTELLA	1,400	1
...PENNALES		
...NAVICULACEAE		
...NAVICULA		0
...NITZSCHIAEAE		
...NITZSCHIA	11,000	8
CYANOPHYTA		
..MYXOPHYCEAE		
..OSCILLATORIALES		
..NOSTOCACEAE		
...ANARAENA		
...OSCILLATORIAEAE	29,000	21
...OSCILLATORIA	87,000	66
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
..EUGLENALES		
..EUGLENACEAE		
...EUGLENA		0
...TRACHELOMONAS		0

JULY 20, 1976 1015 HOURS

PHYTOPLANKTON 12,000 CELLS/ML

_ORGANISM__NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...MICRACTINIAEAE		
...GOLLENKINIA	220	2
...MICRACTINIUM	3,100	25
...OCCYSTACEAE		
...ANKISTRODESMUS	220	2
...DICTYOSPHAERIUM	1,100	9
...KIRCHNERIELLA	220	2
...SCENEDESMACEAE		
...TETRASTRUM	890	7
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
...PENNALES		
...FRAGILARIAEAE		
...SYNEURA	220	2
...NAVICULACEAE		
...NAVICULA	1,400	14
...NITZSCHIAEAE		
...NITZSCHIA	3,600	29
CYANOPHYTA		
..MYXOPHYCEAE		
...CHLOROCOCCALES		
...CHLOROCOCCACEAE		
...ANACYSTIS	890	7
...OSCILLATORIALES		
...OSCILLATORIAEAE		
...OSCILLATORIA		0
EUGLENOPHYTA		
..CRYPTOPHYCEAE		
...CRYPTOMONIDALES		
...CRYPTOMONODACEAE		
...CRYPTOMONAS	220	2

COLORADO RIVER BASIN

08123800 Beals Creek near Westbrook, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

AUG. 2, 1976 1615 HOURS

PHYTOPLANKTON 400,000 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...OCCYSTACEAE		
....ANKISTRODESMUS		0
...SCENEDESMACEAE		
....CRUCIGENIA		0
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..PENNALES		
...NITZSCHIACEAE		
....NITZSCHIA		0
CYANOPHYTA		
..MYXOPHYCEAE		
...OSCILLATORIALES		
...NOSTOCACEAE		
....ANABAENOPSIS	59,000	15
....APHANIZOMENON	330,000	84
....CYLINDROSPERMUM	3,600	1

SEP. 14, 1976 1000 HOURS

PHYTOPLANKTON 12,000 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...OCCYSTACEAE		
....ANKISTRODESMUS	210	2
....KIRCHNERIELLA	630	5
...SCENEDESMACEAE		
....SCENEDESMUS	1,300	10
..VOLVOCELES		
...CHLAMYDOMONADACEAE		
....CHLAMYDOMONAS	1,900	16
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINODISCACEAE		
....CYCLOTELLA	7,400	60
..PENNALES		
...NAVICULACEAE		
....NAVICULA	210	2
...NITZSCHIACEAE		
....NITZSCHIA	630	5
CYANOPHYTA		
..MYXOPHYCEAE		
...CHROOCOCCALES		
...CHROOCOCCACEAE		
....ANACYSTIS		0
EUGLENOPHYTA		
..CRYPTOPHYCEAE		
...CRYPTOMONIDALES		
...CRYPTOMONADACEAE		
....CRYPTOMONAS		0

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

MONTH	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA+MG) (MG/L)
OCT. 1975.....	194.4	8390	5390	2830	2170	1140	1320	695	1780
NOV. 1975.....	472.2	3650	2240	2850	880	1120	520	663	750
DEC. 1975.....	191.8	9680	6310	3260	2550	1320	1560	807	2070
JAN. 1976.....	154.9	10700	7010	2930	2650	1190	1740	727	****
FEB. 1976.....	108	11000	7270	2140	2540	870	1800	530	****
MAR. 1976.....	106.4	11100	7300	2100	2970	853	1610	520	****
APR. 1976.....	397.1	7180	4550	4870	1820	1950	1110	1190	1510
MAY 1976.....	381.7	5950	3690	3800	1470	1510	890	914	1230
JUNE 1976.....	113.97	3740	2280	701	900	275	520	160	770
JULY 1976.....	2021.6	1320	740	4050	270	1470	140	758	300
AUG. 1976.....	58.14	10100	6610	1040	2680	421	1630	256	****
SEPT 1976.....	1766.8	1190	670	3200	240	1120	130	608	270
TOTAL	5967	**	**	33800	**	13200	**	7830	**
WTD. AVG.	16.35	3380	2100	**	820	**	490	**	700

COLORADO RIVER BASIN

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08123800 Beals Creek near Westbrook, Tex.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C.) WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6710	7520	10500	8870	11200	11500	11200	1970	8560	6290	7560	4000
2	7920	2500	10700	8500	11200	11500	11200	2700	8780	6600	8720	3150
3	8580	828	10700	7560	11100	11500	11200	2820	9060	3000	8990	4980
4	9950	2900	10700	7230	11000	11500	11200	4840	9570	1000	9620	4710
5	10500	6010	10800	7480	11000	11500	11200	7000	10500	960	10800	2780
6	11000	5670	11200	8350	11000	11300	11100	7790	3000	800	12000	1400
7	11100	6870	11400	10100	11200	11000	11100	5700	2130	1370	12300	1290
8	11100	6800	10800	11300	11000	10800	11200	4380	2220	2310	11900	1420
9	10800	6170	10700	11300	10800	10800	11200	6620	2360	2730	11500	796
10	10800	5640	10700	11500	10700	10700	11100	10000	2520	3170	11300	634
11	10800	5480	10700	12100	10800	10500	11000	7230	2780	3200	11100	1000
12	10800	5470	10600	12200	10800	10600	11100	5510	2830	1600	11100	1460
13	10700	5450	10600	11900	10800	10700	11200	5540	3030	1100	11100	1740
14	10800	5680	10600	11800	10800	10600	9020	6660	3200	2310	11200	1980
15	7670	6060	10700	11600	10800	10600	7110	7880	3250	960	11300	2230
16	6440	6820	10500	11400	10700	10600	5670	7480	3200	793	11400	2390
17	6000	7820	10300	11500	10900	10800	5550	7480	3200	854	11600	2480
18	10200	8670	10300	11600	10900	10800	6620	8230	3140	3700	11600	1000
19	9720	9630	10300	11400	10800	10800	5530	8540	3110	9440	11600	535
20	10200	10200	10300	11400	11100	10800	5770	8400	3140	3670	11600	2700
21	9950	10600	10300	11400	11100	10900	4770	8260	3280	2630	11600	2150
22	9280	10800	10300	11300	11700	10900	5130	6000	3640	2600	11700	2220
23	7920	10900	10200	11100	11500	11000	5290	4060	3700	1060	11800	1770
24	8800	11100	9950	11300	11300	10900	5220	6800	3840	1980	11400	1990
25	5940	11100	8000	11300	11200	11100	5460	7500	4060	2240	11600	2920
26	5670	10900	7200	11100	11300	11600	5770	7190	4140	4080	11500	3780
27	5000	10800	8670	11100	11200	11800	5890	7370	4200	3920	11300	4260
28	4790	10700	9200	11100	11100	11800	5890	7790	4400	4590	10900	4370
29	3920	10600	10800	11100	11300	11700	6000	8540	4720	5520	10600	1890
30	4670	10700	11100	11100	---	11700	2300	8260	5400	6920	10600	894
31	5730	---	10200	11100	---	11500	---	8160	---	6780	4460	---
MONTH	8500	7680	10300	10700	11000	11100	8070	6670	4370	3170	10800	2300

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23.0	19.0	9.0	10.0	11.0	14.0	16.0	16.0	31.0	32.0	33.0	23.0
2	22.0	17.0	7.0	6.0	9.0	15.0	17.0	18.0	30.0	24.0	33.0	23.0
3	26.5	17.0	---	3.0	9.0	18.0	28.0	19.0	30.0	37.0	28.0	24.0
4	15.0	21.0	11.0	5.0	10.0	15.0	---	22.0	25.0	25.0	32.0	25.0
5	22.0	16.0	16.0	7.0	12.0	11.0	19.0	19.0	24.0	25.0	32.0	29.0
6	18.0	21.0	10.0	5.0	6.0	10.0	18.0	24.0	23.0	25.0	28.0	27.0
7	21.0	20.0	7.0	4.0	5.0	12.0	20.0	19.0	28.0	25.0	27.0	23.0
8	19.0	16.0	8.0	4.0	---	11.0	22.0	17.0	23.0	28.0	31.0	25.0
9	25.0	18.0	8.0	3.0	---	11.0	---	1.0	23.0	26.0	26.0	23.0
10	24.0	15.0	8.0	5.0	---	12.0	19.0	26.0	24.0	25.0	28.0	20.0
11	22.0	14.0	15.0	8.0	15.0	15.0	23.0	2.0	31.0	25.0	33.0	21.0
12	27.0	12.0	10.0	6.0	14.0	18.0	---	23.0	25.0	23.0	25.0	28.0
13	22.0	10.0	13.0	10.0	16.0	10.0	25.0	1.0	25.0	23.0	27.0	28.0
14	22.0	17.0	15.0	7.0	15.0	14.0	23.0	20.0	25.0	23.0	29.0	29.0
15	21.0	10.0	10.0	6.5	15.0	14.0	24.0	19.0	28.0	24.0	30.0	29.0
16	22.0	16.0	7.0	10.0	12.0	11.0	17.0	23.0	23.0	30.0	29.0	29.0
17	---	15.0	8.0	11.0	17.0	12.0	20.0	21.0	26.0	25.0	31.0	25.0
18	20.0	16.0	8.0	12.0	12.0	15.0	22.0	19.0	26.0	28.0	29.0	24.0
19	21.0	17.0	3.0	9.0	12.0	19.0	18.0	24.0	26.0	31.0	27.0	23.0
20	22.0	11.0	5.0	5.0	12.0	15.0	22.0	21.0	27.0	29.0	28.0	24.0
21	20.0	8.0	7.0	5.0	12.0	15.0	25.0	21.0	25.0	25.0	24.0	26.0
22	21.0	7.0	8.0	5.0	12.0	13.0	---	22.0	25.0	---	---	23.0
23	22.0	9.0	8.0	9.0	14.0	15.0	22.0	24.0	31.0	23.0	30.0	22.0
24	21.0	6.0	7.0	13.0	10.0	23.0	24.0	27.0	31.0	24.0	28.0	23.0
25	14.0	8.0	5.0	12.0	12.0	23.0	23.0	27.0	31.0	30.0	29.0	27.0
26	20.0	5.0	---	7.0	10.0	19.0	21.0	21.0	24.0	25.0	25.0	25.0
27	22.0	---	7.0	5.0	16.0	15.0	20.0	27.0	26.0	26.0	30.0	22.0
28	18.0	10.0	---	6.0	19.0	15.0	---	21.0	28.0	29.0	27.0	19.0
29	17.0	14.0	6.0	12.0	15.0	16.0	18.0	24.0	27.0	27.0	28.0	17.0
30	17.0	12.0	5.0	9.0	---	13.0	17.0	30.0	28.0	27.0	30.0	18.0
31	18.0	---	10.0	11.0	---	13.0	---	23.0	---	28.0	25.0	---
MONTH	21.0	13.5	8.5	7.5	12.5	14.5	21.0	22.0	26.5	26.5	24.5	24.0

LOCATION.--Lat 32°03'37", long 100°45'56", Coke County, on right bank 25 ft (7.6 m) downstream from a Pan American Oil Co. bridge 4.7 miles (7.6 km) west of Silver, and at mile 756.6 (1,217.3 km).

PERIOD OF RECORD.--Discharge: August 1967 to current year.

Water quality: Chemical analyses: December 1967 to current year. Pesticide analyses: October 1970 to current year. Water temperatures: December 1967 to current year.

AVERAGE DISCHARGE.--9 years, 66.7 ft³/s (1.889 m³/s), 48,320 acre-ft/yr (59.6 hm³/yr).

Period of record: Maximum discharge, 12,900 ft³/s (365 m³/s) May 29, 1971 (gage height, 17.68 ft or 5.389 m, at former site); no flow at times.

Water quality: Current year: Maximum daily specific conductance, 12,500 micromhos June 12, 15; minimum daily, 467 micromhos Sept. 4. Maximum water temperatures, 28.0°C June 25, Sept. 4.

Period of record: Maximum daily specific conductance, 13,600 micromhos Mar. 18, May 29, 1969; minimum daily, 235 micromhos Aug. 10, 1974. Maximum water temperatures, 29.0°C on several days during summer months of 1968 and 1973; minimum, freezing point on many days during winter months.

REMARKS.--Discharge records good. Low flow is affected by upstream diversions, see stations 08121000 and 08123650. Some regulation by Lake J. B. Thomas, Lake Colorado City, and Champion Creek Reservoir (see stations 08118000, 08123000, and 08123600). Specific conductance is recorded continuously at this station.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.2	6.8	7.9	11	10	6.4	5.7	1610	7.8	.15	4.7	14
2	7.0	199	7.8	10	10	6.0	6.0	276	6.4	.13	3.6	101
3	6.7	339	7.8	10	9.7	6.8	6.0	113	4.8	.27	3.0	248
4	6.4	137	8.8	10	9.5	6.6	5.7	88	4.2		2.4	86
5	7.0	44	8.5	10	8.6	5.9	5.7	72	4.8	76	2.0	38
									257			
6	7.8	22	7.9	9.8	8.6	6.0	5.7	53	4.6	588	1.4	23
7	8.3	20	8.0	9.0	8.6	6.4	5.6	59	42	140	.96	37
8	7.8	18	8.4	8.6	8.6	6.4	5.4	68	17	37	.84	87
9	7.8	16	8.7	9.3	9.3	6.8	5.8	64	15	19	.94	411
10	7.5	15	9.4	10	8.6	7.1	6.1	42	8.0	29	.74	266
11	7.6	13	9.4	9.4	7.4	7.0	5.9	31	4.8	62	.76	61
12	7.5	12	9.0	9.2	7.8	6.7	9.7	24	3.0	51	.71	30
13	6.9	12	11	9.3	7.9	6.4	65	16	2.3	123	.58	20
14	6.6	12	10	9.0	8.2	6.4	68	12	1.7	54	.56	30
15	7.2	12	8.6	9.2	8.2	6.4	131	11	.99	51	.54	40
16	7.9	12	8.6	9.3	7.6	6.0	87	10	.74	91	.46	98
17	9.0	12	8.0	9.4	6.8	6.2	172	9.0	.86	31	.36	60
18	8.1	12	7.8	9.6	6.7	6.8	174	8.8	.69	70	.41	198
19	8.4	10	7.8	9.0	7.1	6.9	167	4.6	.66	129	.45	707
20	8.4	9.1	8.0	8.6	6.9	6.3	75	8.5	.57	57	.66	480
21	7.4	9.1	8.2	8.2	5.4	6.2	41	4.1	.58	56	.44	214
22	8.2	8.8	8.5	8.4	5.6	6.4	26	37	.45	29	.30	101
23	9.7	8.9	9.0	8.6	6.1	6.9	19	55	.35	49	.27	52
24	18	8.9	11	8.7	6.8	7.1	14	116	.23	90	.24	34
25	18	8.4	11	9.2	6.1	6.8	10	57	.21	34	.23	23
26	12	7.7	13	9.5	5.7	5.7	9.2	50	.24	26	.23	14
27	8.8	7.8	25	12	6.0	5.9	8.4	27	.36	35	.20	16
28	7.1	8.2	16	12	6.2	6.1	7.9	18	.29	21	.14	23
29	6.3	8.2	13	12	6.6	5.5	327	14	.20	16	.29	74
30	6.2	7.6	12	12	---	5.4	1370	14	.15	11	.48	30
31	7.2	---	11	11	---	5.3	---	9.6	---	7.8	23	---
TOTAL	261.2	1016.5	309.1	301.3	220.6	196.8	2864.8	2993.6	133.97	2240.35	51.89	3616
MEAN	8.43	33.9	9.97	9.72	7.61	6.35	95.5	96.6	4.47	72.3	1.67	121
MAX	18	339	25	12	10	7.1	1370	1610	42	588	23	707
MIN	6.2	6.8	7.8	8.2	5.4	5.3	5.4	4.1	.15	.13	.14	14
AC-FT	518	2020	613	598	438	390	5680	5940	266			

COLORADO RIVER BASIN

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08123850 Colorado River above Silver, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO- MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG)	DISSOLVED SODIUM (NA) (MG/L)
OCT										
24...	1330	31	7910	6.6	21.5	1700	1700	290	240	1200
NOV										
25...	1320	8.6	6100	7.7	9.0	1300	1100	270	140	900
DEC										
15...	1210	15	8340	7.6	12.0	2100	1900	400	260	1300
FEB										
25...	1010	5.9	9710	6.7	10.0	2200	2100	420	280	1600
MAR										
19...	1235	12	9440	7.2	20.5	2300	2200	430	300	1400
APR										
30...	1330	1980	982	7.7	14.0	230	110	69	15	110
MAY										
05...	1000	68	3260	7.7	17.0	540	400	140	47	490
JUN										
24...	1500	3.5	11400	7.2	29.0	3000	2900	570	380	1800
JUL										
06...	1305	788	946	7.7	25.0	230	100	64	18	98
AUG										
11...	1540	.74	5730	7.1	33.0	1200	1200	300	120	770
SEP										
17...	1125	56	2610	7.8	26.5	390	250	100	35	400

DATE	SODIUM AD- SORPTION RATIO	DISSOLVED POLY- TAS- SIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SiO2) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
OCT									
24...	13	24	58	0	1400	1900	.6	3.9	5090
NOV									
25...	11	14	198	0	1000	1500	--	3.6	3930
DEC									
15...	12	23	225	0	1600	2100	.8	1.1	5800
FEB									
25...	15	23	132	0	1800	2600	--	2.3	6790
MAR									
19...	13	25	128	0	1900	2300	--	.4	6420
APR									
30...	3.1	7.0	146	0	120	170	.3	8.9	572
MAY									
05...	9.2	8.5	178	0	420	770	.5	7.7	1970
JUN									
24...	14	31	151	0	2400	3000	--	5.9	8260
JUL									
06...	2.8	7.8	160	0	93	160	.5	10	530
AUG									
11...	9.5	14	78	0	1000	1300	--	5.5	3550
SEP									
17...	8.8	8.5	175	0	290	580	.5	7.6	1510

COLORADO RIVER BASIN

08123850 Colorado River above Silver, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	TEMPER- ATURE (DEG C)	TOTAL PCB (UG/L)	POLY- CHLO- RINATED NAPH- THA- LENES (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLOR- DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)
OCT 13...	1415	14	25.0	.0	--	.00	.0	.00	.00
FEB 16...	1530	12	20.0	.0	.00	.00	.0	.00	.00
JUN 24...	1500	3.5	29.0	.0	.00	.00	.0	.00	.00
AUG 02...	1445	3.6	34.0	.0	.00	.00	.0	.00	.00

DATE	TOTAL DDT (UG/L)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	TOTAL HEPTA- CHLOR (UG/L)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALA- THION (UG/L)
OCT 13...	.00	.01	.00	.00	.00	.00	.00	.00	.00
FEB 16...	.00	.03	.00	.00	.00	.00	.00	.00	.00
JUN 24...	.00	.00	.00	.00	.00	.00	.00	.00	.00
AUG 02...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
OCT 13...	.00	.00	.00	0	.00	.11	.02	.00
FEB 16...	.00	.00	.00	0	.00	.00	.00	.00
JUN 24...	.00	.00	.00	0	.00	.02	.02	.00
AUG 02...	.00	.00	.00	0	.00	.00	.03	.00

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

MONTH	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	H
OCT. 1975.....	261.2	6620	4310	3040	1620	1140	1170	822	1
NOV. 1975.....	1016.5	2880	1730	4750	650	1790	400	1080	
DEC. 1975.....	309.1	8120	5460	4560	2020	1690	1510	1260	
JAN. 1976.....	301.3	8170	5500	4470	2030	1650	1520	1240	
FEB. 1976.....	213	9470	6500	3750	2390	1380	1820	1050	
MAR. 1976.....	196.8	9480	6500	3450	2390	1270	1820	969	
APR. 1976.....	2864.8	2550	1580	12200	570	4390	400	3090	
MAY 1976.....	2993.6	2420	1490	12100	540	4360	360	2910	
JUNE 1976.....	133.97	7360	4880	1760	1820	656	1340	485	
JULY 1976.....	2240.35	2000	1170	7060	420	2570	250	1520	
AUG. 1976.....	51.89	3900	2330	333	900	126	550	77	640
SEPT 1976.....	3616	1430	820	8000	270	2680	190	1830	280
TOTAL	14199.49	**	**	65500	**	23700	**	16300	**
MTD.AVG.	38.9	2740	1700	**	620	**	430	**	470

COLORADO RIVER BASIN

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08123850 Colorado River above Silver, Tex.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4650	7110	6380	8450	7850	9670	9670	891	6700	11000	3920	4240
2	4850	3610	6540	8350	7730	9580	9710	1550	6300	11100	3930	2360
3	5950	1660	6790	8280	7700	9470	9760	1930	5900	9780	4390	2140
4	6580	1560	7190	8190	7640	9360	9700	2530	5590	1310	4650	2560
5	6150	1730	7480	8090	7900	9450	9620	3190	5310	1300	4960	2530
6	5780	1700	7850	8000	8290	9540	9490	3350	5950	876	5290	2470
7	5540	3690	8100	8000	9780	9390	9510	3570	5120	921	5330	2630
8	5600	4110	8300	7910	10900	9240	9530	3780	7410	1720	5440	4020
9	5640	3750	8470	7850	11000	9280	9620	5590	9020	2210	5520	1100
10	5660	3390	8540	7820	10800	9320	9710	7560	10100	2860	5590	832
11	5640	3460	8540	8050	10700	9280	9780	6860	11900	2240	5620	1240
12	5550	3370	8480	8220	10500	9360	9850	6930	12500	2560	5780	1750
13	5450	3530	8310	8390	10200	9540	6600	6900	12300	1910	5810	2290
14	5420	4470	8250	8460	9950	9500	6960	6880	12400	2250	5940	2550
15	5100	4580	8310	7940	9660	9470	7310	6860	12500	2300	6080	2880
16	5020	4700	8280	7590	9670	9450	6730	6900	12200	2420	6220	1560
17	5310	4870	8260	7120	9760	9360	2410	6940	11900	3840	6370	2430
18	5720	4880	8240	7040	9810	9320	2760	6970	11700	3610	6440	640
19	6350	4890	8230	6930	9780	9360	4270	6960	11500	3350	6400	467
20	6660	5600	8240	6990	9710	9540	3520	6940	11700	3780	6360	713
21	7190	5810	8280	7390	9760	9580	3200	7050	11500	3560	6300	1750
22	7540	5990	8310	8000	9770	9630	3520	5500	11600	3310	6380	2760
23	7590	6050	8370	8390	9760	9670	3780	3550	11500	4360	6440	2440
24	7910	6130	7980	8600	9720	9560	4050	7070	11400	3250	6470	2530
25	8470	6100	7920	8810	9710	9450	4250	4360	11200	3000	6500	2570
26	8550	6130	8050	9040	9670	9540	4440	5450	11000	2110	6540	2650
27	8610	6090	8310	9100	9720	9630	4550	6660	10600	1870	6600	2730
28	8130	6130	8450	9160	9810	9600	4600	7710	10500	2950	6670	2290
29	7820	6090	8580	9240	9780	9580	578	7830	10700	3500	6620	3140
30	7950	6220	8800	8660	---	9670	1060	7600	10900	4060	6670	2590
31	7470	---	8400	7960	---	9630	---	7340	---	3900	2500	---
MONTH	6450	4580	8070	8130	9550	9480	6350	5590	9960	3460	5730	2230

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.0	18.0	5.0	5.0	---	14.0	10.0	12.0	23.0	25.0	---	22.0
2	14.0	---	6.0	5.0	5.0	15.0	13.0	---	23.0	25.0	27.0	---
3	13.0	15.0	6.0	4.0	7.0	17.0	15.0	15.0	22.0	---	25.0	---
4	15.0	15.0	10.0	---	---	16.0	---	17.0	21.0	---	24.0	26.0
5	---	15.0	13.0	4.0	---	9.0	15.0	16.0	21.0	25.0	24.0	---
6	16.0	16.0	9.0	5.0	---	9.0	15.0	17.0	---	24.0	25.0	25.0
7	16.0	15.0	---	3.0	---	---	14.0	---	22.0	25.0	25.0	25.0
8	17.0	15.0	6.0	---	---	10.0	13.0	16.0	22.0	25.0	---	25.0
9	18.0	---	5.0	2.0	---	8.0	15.0	---	23.0	24.0	25.0	22.0
10	18.0	14.0	7.0	4.0	---	10.0	16.0	17.0	22.0	24.0	26.0	22.0
11	20.0	13.0	9.0	---	---	12.0	---	14.0	23.0	---	25.0	23.0
12	---	12.0	9.0	5.0	---	10.0	18.0	22.0	24.0	23.0	25.0	---
13	19.0	10.0	10.0	6.0	---	8.0	17.0	14.0	---	22.0	26.0	23.0
14	20.0	9.0	---	5.0	15.0	---	19.0	17.0	23.0	22.0	25.0	23.0
15	19.0	10.0	7.0	5.0	---	10.0	20.0	17.0	24.0	23.0	---	24.0
16	17.0	---	---	6.0	13.0	8.0	16.0	---	22.0	24.0	25.0	24.0
17	15.0	13.0	---	7.0	13.0	9.0	16.0	---	23.0	24.0	25.0	26.0
18	14.0	15.0	2.0	---	10.0	11.0	---	14.0	23.0	---	25.0	24.0
19	---	15.0	3.0	9.0	10.0	14.0	18.0	15.0	22.0	25.0	24.0	---
20	16.0	8.0	5.0	5.0	16.0	14.0	16.0	10.0	---	24.0	24.0	23.0
21	17.0	6.0	---	4.0	6.0	---	15.0	---	20.0	23.0	24.0	20.0
22	18.0	5.0	7.0	4.0	---	10.0	18.0	---	23.0	22.0	---	21.0
23	17.0	---	7.0	6.0	5.0	11.0	19.0	---	23.0	23.0	23.0	21.0
24	17.0	6.0	6.0	9.0	13.0	11.0	18.0	---	24.0	25.0	24.0	22.0
25	14.0	5.0	4.0	---	8.0	16.0	---	22.0	23.0	---	23.0	23.0
26	---	2.0	4.0	4.0	9.0	15.0	15.0	20.0	25.0	25.0	24.0	---
27	15.0	4.0	5.0	4.0	9.0	11.0	17.0	14.0	---	25.0	24.0	21.0
28	16.0	8.0	---	5.0	12.0	---	18.0	20.0	24.0	25.0	23.0	18.0
29	15.0	5.0	4.0	5.0	---	13.0	12.0	22.0	24.0	25.0	---	20.0
30	14.0	---	3.0	6.0	---	10.0	14.0	---	25.0	24.0	23.0	21.0
31	16.0	---	5.0	6.0	---	9.0	---	22.0	---	25.0	24.0	---
MONTH	16.5	11.0	6.5	5.0	---	11.5	16.0	---	23.0	24.0	24.5	23.0

08123950 E. V. Spence Reservoir near Robert Lee, Tex.

LOCATION.--Lat 31°52'46", long 100°31'01", Coke County, in outlet works of Robert Lee Dam on the Colorado River, 2.2 miles (3.5 km) west of Robert Lee, and at mile 715 (1,150 km).

DRAINAGE AREA.--15,740 mi² (40,770 km²), approximately, of which 11,600 mi² (30,040 km²) is probably noncontributing.

PERIOD OF RECORD.--Contents: December 1968 to current year.

Water quality: Chemical analyses: October 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level. Prior to June 24, 1969, nonrecording gage at same site and datum.

EXTREMES.--Current year: Maximum contents, 180,000 acre-ft (222 hm³) Oct. 1 (elevation, 1,867.65 ft or 569.260 m); minimum, 157,800 acre-ft (195 hm³) Aug. 29-31; minimum elevation, 1,864.45 ft (568.284 m) Aug. 31.

Period of record: Maximum contents, 181,900 acre-ft (224 hm³) Sept. 17, 1975 (elevation, 1,867.93 ft or 569.345 m); minimum since first appreciable storage in June 1969 not recorded, but about 330 acre-ft (0.407 hm³) May 29, 1971.

REMARKS.--The reservoir is formed by a rolled earthfill dam 21,500 ft (6,550 m) long. Closure was made Dec. 30, 1968, and dam was completed in June 1969. The dam is the property of the Colorado River Municipal Water District, which has a permit to divert 50,000 acre-ft (61.6 hm³) annually for municipal, mining, and industrial uses. Inflow to reservoir is partially regulated by Lake J. B. Thomas, Lake Colorado City, and Champion Creek Reservoir (stations 08118000, 08123000, and 08123600). There are two spillways. The service spillway is a morning-glory type that is partially controlled by 12 lift gates, 14.48 by 22.0 ft (4.41 by 6.7 m), and discharges through a 28.0-foot-diameter (8.5-meter) concrete conduit. The emergency spillway is a 3,200-foot-wide (975-meter) cut through natural ground near the right end of dam. Data regarding the dam and reservoir are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	1,928.0	-
Crest of spillway.....	1,908.0	653,400
Top of gates.....	1,900.0	519,300
Top of conservation pool.....	1,898.0	488,800
Crest of spillway.....	1,878.0	262,900
Lowest gated outlet (invert).....	1,815.85	4,000

COOPERATION.--The Colorado River Municipal Water District furnished the capacity table (dated March 1972). Record of diversions furnished by the cities of San Angelo and Robert Lee, and by the Colorado River Municipal Water District.

Capacity table (elevation, in feet, and contents, in acre-feet)

1,864.0	154,900
1,866.0	168,400
1,868.0	182,400

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	179900	176200	176000	172500	169900	167700	163200	167100	167100	160800	163200	158100
2	179600	176000	175800	172400	169800	167600	163200	168000	166900	160400	163200	158000
3	179500	179300	175700	172300	169700	167400	163200	169000	166400	160200	163200	158400
4	179200	179700	175300	172200	169600	167300	163100	169000	166000	160100	163100	158700
5	179000	179400	175000	172300	169500	167100	162900	169000	166000	159800	162800	158600
6	179000	179700	174800	172200	169500	167000	162900	169000	165900	160200	162700	159300
7	178800	179700	174700	172200	169500	167000	162800	169100	165700	161300	162500	159200
8	178600	179600	174600	172200	169500	166900	162800	169100	165600	161300	162200	159800
9	178600	179400	174400	172000	169400	166800	162700	169100	165500	161100	162000	160000
10	178500	179200	174300	172000	169400	166600	162600	169400	165300	161300	162000	160900
11	178300	178900	174200	171900	169400	166400	162400	169300	165200	161200	161600	160900
12	178000	178600	174000	171900	169400	166200	162400	169200	165000	161100	161300	160900
13	177800	178400	174000	171800	169400	166000	162400	169100	164700	161200	161100	160800
14	177900	178200	174000	171600	169200	165900	162900	169000	164500	161700	160800	160800
15	177700	178100	173900	171600	169200	165700	163200	168800	164100	162200	160500	160700
16	178100	177800	173700	171600	169100	165600	163400	168600	164000	162400	160200	160700
17	177800	177600	173600	171500	169000	165400	163500	168400	163800	162700	160100	160900
18	177600	177400	173400	171200	169000	165200	163800	168300	163800	163000	160100	161400
19	177400	177200	173400	171200	168900	165200	163800	168300	163600	163300	160000	163200
20	177200	177100	173400	171000	168800	165100	163400	168400	163600	163300	160000	164600
21	176900	176900	173400	170800	168500	165000	163400	168500	163500	163300	159400	165200
22	177100	176700	173300	170700	168400	164900	163400	168400	163300	163300	159300	165200
23	177200	176700	173200	170800	168300	164600	163400	168400	162900	163300	159200	165200
24	176700	176400	173000	170700	168300	164600	163400	168400	162400	163300	158900	165200
25	176600	176400	172900	170600	168200	164300	163500	168400	162000	163300	158800	165400
26	176400	176400	172700	170500	168100	164100	163400	168200	161700	163300	158700	165200
27	176400	176500	172600	170400	168000	163800	163400	168000	161400	163200	158300	165300
28	176400	176200	172500	170300	167900	163800	163400	167800	161300	163200	158200	165200
29	176400	176200	172600	170200	167800	163600	163300	167700	161100	163200	157800	165200
30	176200	176100	172600	170200	---	163500	163600	167600	160900	163200	157800	165200
31	176100	---	172600	170000	---	163400	---	167400	---	163200	158000	---
(†)	1867.10	1867.10	1866.60	1866.23	1865.91	1865.28	1865.31	1865.85	1864.92	1865.26	1864.47	1865.54
(*)	-3900	0	-3500	-2600	-2200	-4400	+200	+3800	-6500	+2300	-5200	+7200
(††)	2410	1610	1910	1860	1870	2350	2480	2550	2190	1720	1790	1630
MAX	179900	179900	176000	172500	169900	167700	163800	169400	167100	163300	163200	165400
MIN	176100	176100	172500	170000	167800	163400	162400	167100	160900	159800	157800	158000
CAL YR 1975.....	†	+5500			††	23120		MAX	181800		MIN	159100
WTR YR 1976.....	†	-14800			††	24370		MAX	179900		MIN	157800

† Elevation, in feet, at end of month.

* Change in contents, in acre-feet.

†† Diversions, in acre-feet, for municipal, industrial, and mining uses.

COLORADO RIVER BASIN

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08123950 E. V. Spence Reservoir near Robert Lee, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA,MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG)	DIS-SOLVED SODIUM (NA) (MG/L)
OCT 06...	0915	2280	8.2	23.0	460	330	110	45	290
NOV 14...	1120	2360	8.4	--	490	360	120	45	300
JAN 23...	1025	2350	8.0	8.0	480	350	110	49	310
JUL 12...	0830	2600	7.9	24.0	530	400	120	56	340
DATE	SODIUM ADSORPTION RATIO	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SiO2) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
OCT 06...	5.9	11	154	0	280	460	.5	5.2	1280
NOV 14...	5.9	11	146	4	310	460	.5	4.7	1330
JAN 23...	6.2	12	160	0	310	490	.5	4.2	1360
JUL 12...	6.4	12	156	0	340	560	.4	4.4	1510

LOCATION.--Lat 31°53'07", long 100°28'49", Coke County, on left bank 190 ft (58 m) upstream from bridge on State Highway 208 in Robert Lee, 0.4 mile (0.6 km) upstream from Mountain Creek, 2.7 miles (4.3 km) downstream from Messbox Creek, 3.7 miles (6.0 km) downstream from Robert Lee Dam, and at mile 712 (1,146 km).

PERIOD OF RECORD.--October 1923 to December 1927, April 1939 to May 1956, October 1968 to current year. Prior to December 1927, published as "near Robert Lee".

AVERAGE DISCHARGE.--19 years (1924-27, 1939-55) prior to completion of Robert Lee Dam, 207 ft³/s (5.862 m³/s), 150,000 acre-ft/yr (185 hm³/yr); 8 years (1968-76) regulated, 2.30 ft³/s (0.0651 m³/s), 1,670 acre-ft/yr (2.06 hm³/yr).

Period of record: Maximum discharge, 32,500 ft³/s (920 m³/s) Sept. 6, 1926 (gage height, 20.20 ft or 6.157 m, site and datum then in use), from rating curve extended above 15,000 ft³/s (425 m³/s); no flow at times.

Maximum stage since at least 1907, 26.7 ft (8.14 m) Oct. 13, 1957, from floodmarks. Flood in April 1922 reached a stage of 25.5 ft (7.77 m), present datum, from information by local resident.

REVISIONS (WATER YEARS).--WSP 1732: 1925(M).

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.08	.14	0	.57	.36	.23	.06	.09	.06	.70	.13	1.0
2	.06	.78	0	.58	.28	.23	.05	.07	.18	3.2	.16	.79
3	.05	.56	0	.33	.22	.28	.05	.05	.45	1.0	.15	.67
4	.05	.14	0	.28	.14	.39	.05	.04	.71	.36	.19	.68
5	.08	.73	0	.34	.23	.31	.09	.51	3.4	.20	.26	.55
6	.09	.60	0	.39	.34	.34	.10	.52	11	.15	.12	.59
7	.07	.48	.36	.41	.41	.43	.09	.28	1.4	.11	.08	.70
8	.11	.44	.71	.36	.42	.58	.06	.18	.42	.08	.10	.63
9	.11	.36	.71	.42	.44	.48	.06	.13	.20	.08	.10	.67
10	.13	.38	.71	.52	.49	.36	.03	.11	.16	.13	.10	.63
11	.13	.33	.71	.54	.53	.28	.02	.05	.13	1.7	.08	.61
12	.16	.25	.79	.63	.56	.28	.10	.06	.13	1.8	.10	.52
13	.11	.22	.79	.42	.55	.31	.15	.13	.13	1.4	.09	.46
14	.11	.30	.79	.49	.57	.28	.04	.09	.13	1.2	.07	.43
15	3.3	.30	.71	.50	.64	.21	.45	.06	.13	2.0	.05	.41
16	2.4	.35	.71	.48	.57	.27	1.4	.06	.13	1.8	.04	.37
17	.70	.40	.71	.52	.53	.26	1.5	.06	.13	3.6	.04	.30
18	.41	.45	.63	.47	.59	.23	.69	.06	.13	34	.05	.42
19	.28	.74	.63	.42	.59	.15	.30	.05	.16	7.0	.06	2.4
20	.22	.74	.52	.45	.46	.13	.14	.06	.16	2.0	.06	9.8
21	.17	.68	.59	.32	.29	.19	.11	8.6	.13	.87	.07	2.1
22	.55	.45	.59	.21	.38	.16	.10	12	.16	.53	.06	1.2
23	.47	.45	.58	.17	.42	.13	.07	1.0	.07	.49	.04	.90
24	.31	.45	.76	.13	.40	.21	.05	.39	.04	.33	.03	.63
25	.23	.22	.91	.24	.30	.17	.04	.24	.03	.24	.06	.54
26	.18	0	.57	.43	.35	.11	.03	.21	.03	.22	.07	.47
27	.16	0	.60	.28	.48	.14	.04	.18	.03	.20	34	.50
28	.17	0	.42	.30	.58	.15	.07	.32	.03	.17	.68	2.8
29	.19	0	.39	.34	.27	.11	.19	.25	.42	.17	3.6	2.5
30	.17	0	.28	.22	---	.09	.14	.16	127	.19	1.5	1.4
31	.16	---	.37	.16	---	.10	---	.13	---	.17	1.1	---
TOTAL	11.41	94.46	15.54	11.92	12.39	7.59	6.27	26.14	303.70	135.39	110.56	36.08
MEAN	.37	3.15	.50	.38	.43	.24	.21	.84	10.1	4.37	3.57	1.20
MAX	3.3	.78	.91	.63	.64	.58	1.5	.12	127	.70	.68	9.8
MIN	.05	0	0	.13	.14	.09	.02	.04	.03	.08	.03	.30
AC-FT	23	187	31	24	25	15	12	52	602	269	219	72
CAL YR 1975	TOTAL	480.96	MEAN	1.32	MAX	78	MIN	0	AC-FT	454		
WTR YR 1976	TOTAL	771.45	MEAN	2.11	MAX	127	MIN	0	AC-FT	1530		

08125500 Oak Creek Reservoir near Blackwell, Tex.

LOCATION.--Lat 32°03'25", long 100°17'37", Coke County, on left bank at municipal pump station, 1.9 miles (3.1 km) upstream from dam on Oak Creek, 2.5 miles (4.0 km) southeast of Blackwell, 14 miles (23 km) north of Bronte, and 20 miles (32 km) upstream from mouth.

DRAINAGE AREA.--244 mi² (632 km²).

PERIOD OF RECORD.--Contents: May 1953 to current year. Prior to October 1969, monthend contents only.
Water quality: Chemical analyses: October 1969 to current year.

GAGE.--Nonrecording gage read once daily. Datum of gage is at mean sea level.

EXTREMES (at 0800).--Current year: Maximum contents, 35,100 acre-ft (43.3 hm³) Oct. 1-4 (elevation, 1,998.1 ft or 609.02 m); minimum, 25,610 acre-ft (31.6 hm³) Sept. 18, 29, 30 (elevation, 1,993.2 ft or 607.53 m).
Period of record: Maximum contents observed, 49,100 acre-ft (60.5 hm³) Oct. 13, 1957 (elevation, 2,003.80 ft or 610.758 m); minimum observed, 7,060 acre-ft (8.70 hm³) Aug. 1, 1953 (elevation, 1,976.2 ft or 602.35 m).

REMARKS.--The reservoir is formed by a rolled earthfill dam 3,800 ft (1,160 m) long. The dam was completed in May 1952, and deliberate impoundment began May 12, 1953. The emergency spillway is an uncontrolled 800-foot-wide (240-meter) cut through natural ground, 1,200 ft (366 m) from right end of dam. The service spillway is an uncontrolled cut channel through natural ground 300 ft (91 m) wide, located 2,000 ft (610 m) from right end of dam. The reservoir and dam are the property of the city of Sweetwater. The dam was built to impound water for municipal and industrial uses by the cities of Sweetwater, Blackwell, and Bronte. Since April 1962, West Texas Utilities Co. has operated a steam generating powerplant located on Oak Creek Reservoir. There is a gated outlet at the service spillway that can release water downstream to Oak Creek through a 24-inch (610-millimeter) concrete pipe. Capacity curve is based on a 1950 survey. Data regarding the dam and reservoir are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	2,014.0	-
Crest of spillway.....	2,005.0	52,490
Crest of spillway (top of conservation pool).....	2,000.0	39,360
Lowest gated outlet (invert).....	1,951.0	100

COOPERATION.--Capacity curve, record of lake elevations, and diversions furnished by city of Sweetwater.

Capacity table (elevation, in feet, and contents, in acre-feet)

1,993.0	25,260
1,996.0	30,770
1,999.0	37,070

CONTENTS, IN ACRE-Feet, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35100	34256	34250	33620	32990	32380	31170	31370	30390	28850	28480	26660
2	35100	34880	34250	33620	32990	32380	31170	31370	30390	28850	28300	26480
3	35100	34880	34040	33620	32990	32180	31170	31170	30390	28670	28300	26480
4	35100	34880	34040	33620	32990	32180	31170	31170	30190	28670	28110	26480
5	34880	34880	34040	33620	32990	32180	31170	31370	30190	28670	28110	26310
6	34880	34880	34040	33620	32990	32180	31170	31370	30190	28480	28110	26310
7	34880	34880	34040	33620	32990	32180	30970	31370	30000	28480	28110	26310
8	34880	34880	34040	33620	32990	32180	30970	31370	30000	28480	27930	26310
9	34880	34880	34040	33620	32990	32180	30970	31170	30000	28480	27930	26140
10	34670	34880	34040	33410	32990	32180	30970	31170	30000	28300	27750	26140
11	34670	34880	34040	33410	32780	31980	30970	31170	30000	28300	27750	26140
12	34670	34670	34040	33410	32780	31980	30770	31170	29810	28480	27750	25960
13	34670	34670	34040	33410	32780	31980	30970	31170	29810	28480	27560	25960
14	34560	34670	34040	33410	32780	31980	30970	31170	29810	28480	27560	25960
15	34560	34670	33830	33410	32780	31980	30970	31170	29620	28480	27380	25780
16	34670	34670	33830	33410	32780	31780	31170	30970	29620	28480	27380	25780
17	34670	34460	33830	33410	32780	31780	31370	30970	29620	28480	27380	25780
18	34670	34460	33830	33410	32780	31780	31570	30970	29430	28670	27190	25610
19	34460	34460	33830	33410	32780	31780	31570	30970	29430	28500	27190	25960
20	34460	34460	33830	33200	32780	31780	31570	30970	29230	29040	27190	25960
21	34460	34460	33830	33200	32580	31780	31370	30770	29230	29040	27010	25960
22	34460	34460	33830	33200	32580	31570	31370	30770	29230	28850	27010	25960
23	34460	34460	33830	33200	32580	31570	31370	30770	29230	28850	27010	25960
24	34460	34460	33830	33200	32580	31570	31370	30770	29040	28850	26840	25960
25	34460	34460	33830	33200	32580	31570	31370	30770	29230	28850	26840	25780
26	34460	34250	33830	33200	32380	31570	31370	30770	29230	28850	26840	25780
27	34460	34250	33830	33200	32380	31370	31370	30580	29230	28670	26840	25780
28	34250	34250	33830	33200	32380	31370	31170	30580	29040	28670	26660	25780
29	34250	34250	33830	33200	32380	31370	31370	30580	29040	28480	26660	25610
30	34250	34250	33830	33200	---	31370	31370	30580	28850	28480	26660	25610
31	34250	---	33830	32990	---	31170	---	30390	---	28480	26660	---
(†)	1997.7	1997.7	1997.5	1997.1	1996.8	1996.2	1996.3	1995.8	1995.0	1994.8	1993.8	1993.2
(*)	-1070	0	-420	-840	-610	-1210	+200	-980	-1540	-370	-1820	-1050
(††)	401	317	387	364	416	542	405	187	547	660	685	666
MAX	35100	34880	34250	33620	32990	32380	31570	31370	30390	29040	28480	26660
MIN	34250	34250	33830	32990	32380	31170	30770	30390	28850	28300	26660	25610

CAL YR 1975..... * -6730

WTR YR 1976..... * -9710

†† 3690

†† 5580

MAX 40560

MAX 35100

MIN 33830

MIN 25610

† Elevation, in feet, at end of month.

* Change in contents, in acre-feet.

†† Diversions, in acre-feet, for municipal and industrial uses.

COLORADO RIVER BASIN

08125500 Oak Creek Reservoir near Blackwell, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG)	DIS-SOLVED SODIUM (NA) (MG/L)
JAN 26...	0900	1020	8.2	7.0	380	220	86	40	63
DATE	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SiO2) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
JAN 26...	1.4	6.5	192	0	220	95	.4	6.3	612

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LOCATION.--Lat 31°43'58", long 99°57'13", Runnels County, on left bank at downstream side of bridge on U.S. Highway 67 in Ballinger, 1.3 miles (2.1 km) upstream from Elm Creek, and at mile 660.2 (1,062.3 km).

PERIOD OF RECORD.--Discharge: June 1907 to current year. Monthly discharge only for some periods published in WSP 1312. Gage-height records collected in this vicinity from 1903-29 are contained in reports of the National Weather Service.

Water quality: Chemical analyses: October 1961 to current year. Water temperatures: October 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,593.74 ft (485.772 m) above mean sea level. Prior to Nov. 29, 1930, nonrecording gages at several sites near present site at various datums. Nov. 29, 1930, to May 1, 1975, water-stage recorder at site 0.8 mile (1.3 km) downstream at same datum.

AVERAGE DISCHARGE.--61 years (1907-68) prior to completion of Robert Lee Dam, 336 ft³/s (9.516 m³/s), 243,400 acre-ft/yr (300 hm³/yr); 8 years (1968-76) partially regulated, 49.6 ft³/s (1.405 m³/s), 35,940 acre-ft/yr (44.3 hm³/yr).

EXTREMES.--Discharge: Current year: Maximum discharge, 1,860 ft³/s (52.7 m³/s) Apr. 29; maximum gage height, 4.68 ft (1.426 m) Sept. 21 (backwater from Elm Creek); minimum discharge, 0.02 ft³/s (0.001 m³/s) July 2, 3.

Period of record: Maximum discharge, 75,400 ft³/s (2,140 m³/s) Sept. 18, 1936 (gage height, 28.6 ft or 8.72 m); no flow at times.

Historic: Maximum stage since at least 1882, about 36 ft (11.0 m) sometime in 1884, at former site and datum, from information by local residents. Flood of Aug. 6, 1906, reached a stage of about 32.0 ft (9.75 m), at former site and datum, from floodmarks (backwater from Elm Creek).

Water quality: Current year: Maximum daily specific conductance, 3,200 micromhos Mar. 16; minimum daily, 930 micromhos July 19. Maximum water temperatures, 33.0°C Aug. 4; minimum, 5.0°C Jan. 6-9.

Maximum water temperatures, 33.0°C Aug. 4; minimum, 5.0°C Jan. 6-9.
Period of record: Maximum daily specific conductance, 13,500 micromhos May 3, 1963; minimum daily, 249 micromhos Aug. 14, 1963.
Maximum water temperatures, 34.0°C Aug. 14, 1973; minimum, freezing point Jan. 9-11, 1973.

REMARKS.--Discharge records good. Diversions above station for irrigation, municipal supplies, and oilfield operation. Flow is affected by E. V. Spence and Oak Creek Reservoirs (see stations 08123950 and 08125500). At end of year, flow from 133 mi² (344 km²) above this station was partly controlled by 25 floodwater-retarding structures with a flood-detention capacity of 26,650 acre-ft (32.9 hm³).

REVISIONS (WATER YEARS).--WSP 1118: Drainage area. WSP 1512: 1916-17, 1919-20, 1921(M), 1922-25, 1928(M), 1930(M). WSP 1712: 1935, 1954(M), 1955(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.4	11	14	17	14	4.5	4.0	132	2.1	.04	7.3	30
2	8.5	649	13	15	13	5.5	4.3	67	1.9	.04	6.6	47
3	7.5	676	13	15	13	5.5	4.3	37	2.3	.03	6.4	14
4	7.3	227	14	15	11	4.6	3.0	27	2.2	1.6	5.4	7.7
5	7.5	55	14	14	12	4.6	4.6	26	2.3	3.8	4.8	6.3
6	7.4	34	13	14	12	5.2	7.3	38	2.0	1.4	4.3	4.4
7	7.7	31	14	13	12	4.7	8.2	46	12	.36	4.2	4.0
8	7.0	24	14	15	11	4.6	8.7	34	13	.14	4.0	6.0
9	6.5	19	13	14	11	4.9	8.7	26	22	.59	4.0	5.8
10	7.7	18	13	14	11	4.8	6.8	23	5.5	2.7	4.0	5.5
11	7.1	15	13	14	13	4.8	4.9	21	2.6	184	3.7	6.9
12	6.6	14	14	15	13	4.3	253	10	1.3	106	2.7	6.1
13	7.4	13	12	16	13	4.6	181	22	.54	34	2.2	4.5
14	8.2	12	13	17	12	4.4	81	20	.27	20	2.0	4.6
15	7.6	11	14	14	11	3.3	34	14	.14	15	2.5	4.6
16	16	12	15	15	11	3.8	87	15	.17	15	3.2	4.3
17	13	12	13	15	12	4.4	186	14	.32	115	3.5	3.1
18	14	12	13	15	14	3.3	188	14	.37	180	2.8	5.6
19	14	14	13	14	11	3.3	69	11	.65	280	3.1	10
20	17	15	13	15	8.1	3.2	32	12	1.2	128	2.8	79
21	15	16	12	14	6.6	2.9	23	10	.69	38	2.8	63
22	13	15	12	14	7.5	2.9	18	9.2	.36	22	2.9	24
23	17	15	12	14	7.3	3.4	15	51	.26	20	3.1	15
24	39	15	16	14	7.2	4.1	14	48	.19	17	3.4	11
25	21	13	19	15	7.4	6.3	14	23	.16	14	3.7	8.2
26	17	13	20	15	5.4	6.4	12	14	.15	12	4.2	7.0
27	13	12	20	15	5.4	7.2	11	4.0	.12	11	4.1	9.1
28	12	11	19	13	5.4	6.6	169	6.9	.07	9.6	5.3	248
29	12	12	14	13	5.2	4.0	1200	5.0	.06	8.4	4.0	40
30	11	12	18	13	---	2.7	477	3.7	.05	8.1	3.6	23
31	11	---	17	15	---	3.2	---	2.4	---	7.7	13	---
TOTAL	769.4	2001	452	451	296.0	138.0	3128.8	799.2	75.06	1255.50	129.6	707.7
MEAN	11.9	66.7	14.6	14.5	10.2	4.45	104	25.8	2.50	40.5	4.18	23.6
MAX	39	676	20	17	14	7.2	1200	132	22	240	13	248
MIN	6.5	11	12	13	5.2	2.7	3.0	2.4	.05	.03	2.0	3.1
AC-FT	733	3970	897	895	587	274	6210	1590	144	2490	257	1400
CAL YR 1975	TOTAL	19452.60	MEAN	53.3	MAX	1810	MIN	2.3	AC-FT	34580		
WTR YR 1976	TOTAL	9803.26	MEAN	26.8	MAX	1200	MIN	.03	AC-FT	19440		

COLORADO RIVER BASIN

08126500 Colorado River at Ballinger, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)
OCT.										
24...	1210	103	2570	7.7	22.5	930	770	220	92	230
NOV.										
30...	1210	12	2120	8.2	12.0	730	530	170	74	190
DEC.										
31...	1045	16	2370	8.0	8.5	800	630	180	84	210
JAN.										
31...	1040	13	2650	7.9	9.0	990	800	240	96	240
FEB.										
23...	1105	7.9	2870	7.7	13.0	1000	810	240	100	280
MAR.										
22...	1655	2.8	3100	7.7	24.5	1100	940	240	130	270
31...	1850	2.8	3070	7.9	18.0	1200	960	270	120	250
APR.										
30...	1610	520	1300	7.9	18.5	410	270	89	45	120
MAY										
07...	1305	51	1410	7.9	21.0	420	270	93	46	120
JUNE										
15...	1350	.18	2690	7.2	29.0	870	750	190	96	260
JULY										
31...	2020	6.8	2050	7.9	32.0	660	510	160	64	180
AUG.										
31...	0800	2.8	3060	7.8	26.0	1200	1000	260	130	260
SEP.										
08...	1220	6.4	2350	7.1	27.5	680	540	160	69	260

DATE	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
OCT.									
24...	3.3	6.8	188	0	650	380	.5	9.4	1680
NOV.									
30...	3.1	5.1	243	0	450	330	.5	10	1350
DEC.									
31...	3.2	5.5	197	0	590	370	.6	8.3	1550
JAN.									
31...	3.3	5.5	236	0	660	410	.8	7.9	1780
FEB.									
23...	3.8	5.8	249	0	730	500	.8	6.9	1990
MAR.									
22...	3.5	5.5	239	0	850	480	.8	7.9	2100
31...	3.2	5.7	254	0	860	460	.7	11	2100
APR.									
30...	2.6	6.0	168	0	250	190	.9	8.8	793
MAY									
07...	2.5	5.0	190	0	250	210	.4	5.7	824
JUNE									
15...	3.8	8.0	151	0	680	420	.5	9.7	1740
JULY									
31...	3.0	6.0	186	0	450	310	.6	13	1280
AUG.									
31...	3.3	6.5	200	0	800	500	.7	17	2070
SEP.									
08...	4.3	8.0	170	0	480	410	.5	14	1490

08126500 Colorado River at Ballinger, Tex.--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

MONTH	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARNESS (CA+MG) (MG/L)
OCT. 1975.....	364.4	2790	1490	1860	450	445	700	700	990
NOV. 1975.....	2001	1370	860	4630	210	1140	270	1450	450
DEC. 1975.....	452	2250	1440	1750	350	431	480	582	780
JAN. 1976.....	451	2510	1640	1990	400	487	580	702	880
FEB. 1976.....	240.8	2650	1750	1380	420	332	640	500	940
MAR. 1976.....	137	2900	1980	737	460	173	750	279	1030
APR. 1976.....	3128.8	1630	1040	8780	250	2130	340	2850	530
MAY 1976.....	794.2	1690	1070	2310	260	571	340	738	550
JUNE 1976.....	75.06	2620	1720	349	420	85	620	126	920
JULY 1976.....	1255.5	1650	1040	3530	250	802	340	1140	540
AUG. 1976.....	129.6	2590	1720	602	410	145	620	218	910
SEPT 1976.....	707.7	2430	1330	2550	320	609	470	896	690
TOTAL	9748.05	**	**	30500	**	7410	**	10200	**
WTD.AVG.	25.84	1790	1200	**	280	**	390	**	600

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2870	2680	2100	2310	2550	2990	3010	1410	2430	3010	2060	2070
2	2880	1420	2070	2390	2500	2980	3070	1410	2550	3040	2130	2450
3	2840	1260	2050	2260	2390	2860	3110	1510	2460	3070	2150	2330
4	2920	1060	2080	2110	2420	2730	3150	1520	2530	2020	2200	2340
5	3020	1160	2100	2270	2720	2740	3140	1570	2490	2500	2270	2320
6	2950	1190	2110	2430	2670	2810	3180	1590	2530	2950	2290	2310
7	2940	1250	2120	2520	2710	2780	3190	1410	2580	3120	2360	2290
8	2960	1270	2120	2500	2670	2940	3110	1360	3030	3100	2440	2190
9	2940	1380	2060	2470	2630	3140	3040	1410	2450	3070	2480	2040
10	3000	1430	2140	2430	2590	2940	3010	1460	2460	2490	2510	2050
11	3040	1510	2170	2540	2690	2780	3050	1590	2580	1500	2590	2040
12	3030	1580	2220	2570	2670	2810	1750	1640	2750	1840	2640	2450
13	3020	1640	2240	2560	2670	2730	2570	1660	2790	2670	2670	2670
14	3000	1700	2230	2550	2690	2860	3150	1730	2820	2160	2680	2720
15	2950	1740	2200	2540	2640	3170	1790	1820	2790	2570	2710	2740
16	2380	1760	2230	2390	2650	3200	2070	1830	2800	2750	2750	2770
17	3120	1810	2270	2540	2560	3170	1900	1850	2760	2380	2840	2740
18	3140	1850	2230	2560	2690	3030	1960	1930	2620	2160	2880	2250
19	3190	1890	2360	2490	2750	2980	1370	1980	2610	930	2920	1800
20	2730	1920	2310	2630	2810	2960	1750	2040	2710	1360	2950	3150
21	2560	1900	2360	2610	2820	2940	2170	2100	2860	1170	2990	2900
22	2550	1890	2480	2620	2720	2850	2110	2170	2910	1220	2990	3050
23	2410	1870	2510	2620	2720	2880	2110	2010	2880	1440	3050	3180
24	2380	1890	2300	2640	2680	2650	2060	2200	2880	1530	3040	2760
25	2860	1950	2360	2620	2650	2720	2040	2330	2900	1610	3120	2610
26	2970	1980	2280	2600	2630	2760	2020	2570	2910	1880	2890	2560
27	2760	2010	2300	2610	2670	2840	2040	2590	2930	1920	2930	2500
28	2710	2050	2330	2530	2880	2920	1800	1980	2920	1910	2980	975
29	2760	2070	2360	2540	3040	2970	1200	2250	2920	1900	2910	2210
30	2750	2130	2320	2680	---	3010	1390	2570	2950	1980	2680	2030
31	2740	---	2410	2670	---	3090	---	---	---	2050	2500	---
MONTH	2850	1710	2240	2510	2670	2910	2380	1850	2730	2170	2660	2420

COLORADO RIVER BASIN

08126500 Colorado River at Ballinger, Tex.--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.0	18.0	10.0	9.0	10.0	18.0	16.0	20.0	24.0	---	32.0	25.0
2	21.0	17.0	12.0	9.0	9.5	17.0	---	20.0	30.0	---	29.0	27.0
3	16.0	19.0	9.0	8.5	9.0	21.0	22.0	21.0	25.0	---	30.0	29.0
4	21.0	19.0	15.0	8.5	11.0	21.0	20.0	19.0	28.0	28.0	33.0	30.0
5	21.0	---	15.5	---	11.0	16.0	19.0	22.0	26.0	28.0	31.5	31.0
6	22.0	19.0	15.0	5.0	8.5	14.0	18.5	22.0	---	29.0	30.0	28.5
7	22.0	18.0	14.0	5.0	9.5	13.0	18.5	22.0	26.5	27.0	---	27.0
8	---	21.0	9.0	5.0	10.0	11.0	19.0	21.0	24.0	25.0	30.0	26.0
9	20.0	20.0	9.0	5.0	12.0	10.5	21.0	21.0	24.0	25.0	30.0	24.0
10	21.0	17.0	10.0	8.0	16.0	13.0	23.0	14.5	25.0	24.0	32.0	---
11	25.0	16.5	13.0	10.0	17.0	16.5	21.0	20.0	26.0	---	30.0	23.0
12	25.0	14.5	14.0	6.0	17.0	15.0	19.0	21.0	28.0	25.0	30.0	25.0
13	24.5	12.0	15.0	8.0	20.0	12.0	21.0	22.0	30.0	25.0	31.0	25.0
14	23.0	12.0	14.0	---	18.0	18.0	22.0	20.0	32.0	24.0	30.0	25.0
15	22.0	11.5	13.0	11.0	19.0	17.0	23.0	24.0	28.0	28.0	29.0	25.0
16	20.0	---	---	11.0	19.0	18.0	22.0	24.0	28.0	28.5	30.0	25.0
17	19.0	17.0	8.5	12.0	18.0	17.0	20.0	21.0	26.0	28.0	30.0	25.0
18	---	17.0	8.0	12.0	14.0	18.0	21.0	21.0	25.0	27.0	30.0	---
19	17.0	17.0	8.0	11.0	---	19.0	22.0	23.0	25.0	28.0	29.5	25.0
20	17.0	13.0	10.0	10.0	15.0	---	---	23.0	27.0	29.0	29.0	24.5
21	19.0	12.0	9.5	11.0	14.5	19.0	24.0	25.5	24.0	27.0	29.0	26.0
22	20.0	10.0	9.5	7.0	13.0	18.5	24.0	24.0	27.0	26.0	26.0	23.0
23	19.0	10.0	10.0	11.5	9.0	17.0	21.0	25.0	25.0	31.0	28.0	21.5
24	20.0	9.0	8.5	12.0	---	19.0	21.5	---	27.0	30.0	26.5	28.0
25	16.0	10.0	9.0	13.0	16.0	19.0	22.0	24.0	28.0	30.0	25.0	26.0
26	15.5	8.0	---	8.5	16.0	19.0	23.0	24.0	30.0	32.0	---	25.0
27	17.0	---	10.0	10.0	17.0	18.0	22.0	25.0	30.0	30.0	26.0	27.0
28	18.0	9.0	9.0	7.0	21.0	19.0	21.0	27.0	29.5	---	26.0	21.0
29	17.0	15.0	8.0	7.0	19.0	17.0	18.0	24.0	30.0	27.0	28.5	26.0
30	18.0	12.0	8.5	11.0	---	17.0	18.5	---	---	31.0	29.0	20.0
31	18.0	---	8.5	9.0	---	18.0	---	30.0	---	32.0	26.0	---
MONTH	20.0	14.5	11.0	9.0	14.5	17.0	21.0	23.0	27.0	28.0	29.0	25.5

COLORADO RIVER BASIN

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08127000 Elm Creek at Ballinger, Tex.

LOCATION.--Lat 31°44'57", long 99°56'51", Runnels County, on right bank 1,000 ft (305 m) upstream from storage dam at Ballinger and 1.9 miles (3.1 km), revised, upstream from mouth.

DRAINAGE AREA.--471 mi² (1,220 km²).

PERIOD OF RECORD.--Discharge: April 1932 to current year.

Water quality: Chemical analyses: October 1967 to current year. Water temperatures: October 1967 to current year.

GAGE.--Water-stage recorder and masonry dam control. Datum of gage is 1,617.72 ft (493.081 m) above mean sea level.

AVERAGE DISCHARGE.--44 years, 47.5 ft³/s (1.345 m³/s), 1.37 in/yr (35 mm/yr), 34,410 acre-ft/yr (42.4 hm³/yr).

EXTREMES.--Discharge: Current year: Maximum discharge, 5,900 ft³/s (167 m³/s) Sept. 20 (gage height, 6.76 ft or 2.060 m, from floodmark); minimum, 0.04 ft³/s (0.001 m³/s) Aug. 21-24.

Period of record: Maximum discharge, 50,000 ft³/s (1,420 m³/s) Oct. 13, 1957 (gage height, 14.20 ft or 4.328 m, from floodmark); no flow at times.

Historic: Flood in August 1906 reached a stage of 14.5 ft (4.42 m), affected by backwater from Colorado River; highest stage not affected by backwater from Colorado River since at least 1904 was that of Oct. 13, 1957, from information by local residents.

Water quality: Current year: Maximum daily specific conductance, 3,580 micromhos Oct. 13, 20-22; minimum daily, 386 micromhos Sept. 22. Maximum water temperatures, 34.0°C Aug. 10; minimum, 2.0°C Jan. 9.

Period of record: Maximum daily specific conductance, 4,220 micromhos Sept. 12, 17, 1970; minimum daily, 306 micromhos Sept. 19, 1974. Maximum water temperatures, 34.5°C Aug. 14, 1973; minimum, freezing point Jan. 8, 1968, Jan. 10, 13, 1973.

REMARKS.--Discharge records good except those below 100 ft³/s (2.83 m³/s), which are fair. Stage-discharge relation during period of low flow affected by wind action and occasional accumulation of drift on dam. During the current year, records furnished by the city of Winters show they diverted 739 acre-ft (911,000 m³) from Lake Winters (capacity, 3,060 acre-ft or 3.77 hm³).

REVISIONS (WATER YEARS).--WSP 1442: 1935, 1946, 1954.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.70	.62	6.2	6.6	5.0	5.4	1.5	41	2.7	.18	4.0	1.5
2	.49	55	6.6	6.1	5.4	5.4	1.6	31	5.5	.13	2.8	1.3
3	.32	66	6.6	5.9	5.0	6.2	2.2	28	2.0	.11	1.8	1.1
4	.24	31	7.3	5.9	5.4	4.4	1.9	23	1.3	.80	1.4	.93
5	.20	16	7.6	5.9	5.0	3.3	1.8	39	1.1	.92	1.1	.66
6	.20	11	7.3	5.8	4.8	4.0	1.8	53	1.2	.55	.93	.53
7	.24	9.8	6.6	4.6	4.4	4.8	2.3	28	34	.43	.74	.42
8	.24	9.0	7.4	5.3	4.9	5.6	2.3	22	21	.32	.56	.33
9	.28	7.6	7.7	5.4	5.1	5.8	2.0	20	14	.43	.42	.26
10	.32	6.8	7.8	5.4	5.4	6.6	2.0	17	11	1.2	.31	.17
11	.28	6.7	8.0	5.4	6.6	6.6	2.0	16	8.2	17	.24	.15
12	.28	5.3	8.3	5.9	6.6	6.0	19	15	6.1	14	.18	.14
13	.24	5.4	9.0	6.0	6.6	4.9	16	12	4.1	9.7	.14	.14
14	.20	4.9	8.5	5.4	6.6	6.6	7.8	10	2.2	6.6	.12	.15
15	.28	4.9	6.9	5.2	6.6	6.0	12	12	1.6	6.6	.08	.14
16	1.6	5.4	7.7	5.5	6.6	4.0	30	11	1.8	6.6	.07	.13
17	1.6	5.7	6.5	5.4	6.6	4.1	64	9.7	37	5.4	.05	.12
18	.92	6.6	6.1	5.6	6.6	4.4	77	9.2	77	35	.05	.21
19	.62	6.4	6.7	6.1	5.6	4.7	39	8.5	14	83	.06	.18
20	.49	5.4	7.9	5.4	5.0	4.2	20	8.1	9.7	24	.05	2140
21	.49	7.7	8.1	5.4	2.5	3.2	15	8.0	5.4	12	.04	1600
22	.49	7.4	8.2	5.4	2.8	3.6	13	7.8	3.1	9.7	.04	210
23	53	7.1	6.0	5.4	3.9	3.4	12	7.3	2.0	9.7	.04	91
24	11	5.9	8.1	5.9	3.9	6.8	11	4.9	1.4	8.0	.05	58
25	1.8	6.4	9.1	5.7	4.4	6.8	11	6.7	1.0	9.7	.05	38
26	1.2	4.9	9.6	5.5	4.4	4.6	9.1	15	.80	17	.06	27
27	1.1	5.6	8.2	5.4	5.3	2.6	9.4	11	.55	17	.06	26
28	1.0	7.0	7.4	5.4	5.4	3.1	222	4.6	.43	9.7	.08	19
29	.81	7.9	6.3	5.8	5.2	2.8	623	5.9	.37	8.0	.10	14
30	.67	6.0	6.5	6.5	---	2.0	76	4.1	.28	6.8	.10	12
31	.60	---	6.3	4.4	---	1.7	---	3.1	---	5.1	.67	---
TOTAL	81.90	335.42	230.5	173.6	151.6	143.6	1307.7	495.9	270.83	325.67	16.39	4261.38
MEAN	2.64	11.2	7.44	5.60	5.23	4.63	43.6	16.0	9.03	10.5	.53	142
MAX	53	66	9.6	6.6	6.6	6.8	623	53	77	83	4.0	2140
MIN	.20	.62	6.0	4.4	2.5	1.7	1.5	3.1	.28	.11	.04	.12
CFSM	.005	.02	.02	.01	.01	.009	.09	.03	.02	.02	.001	.30
IN.	.006	.03	.02	.01	.01	.01	.10	.04	.02	.03	.001	.34
AC-FT	162	665	457	344	301	285	2590	984	537	646	33	8450

CAL YR 1975 TOTAL 11065.65 MEAN 30.3 MAX 517 MIN .12 CFSM .06 IN .87 AC-FT 21950

WTR YR 1976 TOTAL 7794.49 MEAN 21.3 MAX 2140 MIN .04 CFSM .05 IN .62 AC-FT 15460

PEAK DISCHARGE (BASE, 2,100 FT³/S).--Sept. 20 (about 2000) 5,900 ft³/s (6.76 ft, from floodmark).

COLORADO RIVER BASIN

08127000 Elm Creek at Ballinger, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPF- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)
OCT.										
31...	0720	.80	3550	8.2	16.5	1100	910	160	160	380
NOV.										
30...	1200	3.0	2360	8.1	10.0	680	470	130	86	230
DEC.										
31...	1030	6.2	2860	7.9	7.0	840	680	140	120	300
JAN.										
12...	1155	6.4	2890	7.9	5.0	870	630	150	120	300
FEB.										
29...	1940	4.0	3040	8.2	16.5	930	730	160	130	320
MAR.										
22...	1525	3.8	3160	7.8	18.0	950	740	150	140	330
31...	1900	1.3	3230	8.0	16.5	930	720	160	130	330
APR.										
30...	1600	32	836	7.6	16.5	250	120	64	23	68
MAY										
07...	1120	28	1530	7.8	19.0	420	250	85	50	150
JUNE										
30...	1200	.20	1540	8.1	31.0	420	260	74	56	150
JULY										
31...	2030	5.0	1650	7.8	30.0	440	260	89	53	160
AUG.										
31...	2010	.70	1900	8.0	26.5	520	330	90	72	200
SEP.										
30...	0830	15	779	7.9	20.5	270	100	67	24	49

DATE	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	HICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RINE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
OCT.									
31...	5.1	6.0	176	0	600	790	.8	9.9	2190
NOV.									
30...	3.8	6.0	256	0	310	440	.7	10	1340
DEC.									
31...	4.5	5.0	202	0	460	610	.9	11	1750
JAN.									
12...	4.4	4.6	286	0	400	570	1.0	8.4	1700
FEB.									
29...	4.6	4.4	248	0	460	660	1.0	7.1	1860
MAR.									
22...	4.7	4.8	258	0	490	690	1.0	4.3	1940
31...	4.7	5.6	260	0	480	720	1.0	5.1	1960
APR.									
30...	1.9	4.8	160	0	81	130	.4	7.8	458
MAY									
07...	3.2	5.0	200	0	190	290	.5	8.4	878
JUNE									
30...	3.2	5.8	192	0	180	290	.6	12	863
JULY									
31...	3.3	6.0	221	0	180	310	.7	14	922
AUG.									
31...	3.8	6.8	236	0	220	390	.8	14	1110
SEP.									
30...	1.3	5.5	202	0	64	98	.4	11	417

COLORADO RIVER BASIN

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08127000 Elm Creek at Ballinger, Tex.--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

MONTH	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA+MG) (MG/L)
OCT. 1975.....	81.9	3390	2050	454	720	101	550	121	970
NOV. 1975.....	335.42	2190	1290	1170	450	410	290	259	630
DEC. 1975.....	230.5	2690	1620	1010	570	354	400	246	780
JAN. 1976.....	173.6	2860	1720	805	600	203	430	202	820
FEB. 1976.....	146.4	2940	1770	700	620	240	450	177	850
MAR. 1976.....	143.0	3100	1870	726	660	250	490	189	890
APR. 1976.....	1307.7	1360	780	2770	270	941	160	548	400
MAY 1976.....	445.9	1450	830	1110	290	303	150	209	420
JUNE 1976.....	270.83	2020	1190	869	410	302	260	188	590
JULY 1976.....	325.67	1340	760	665	260	229	140	124	390
AUG. 1976.....	16.39	1750	1010	45	350	10	200	8.9	510
SEPT 1976.....	4261.38	592	330	3820	87	1000	46	527	180
TOTAL	7789.20	**	**	14100	**	4580	**	2800	**
WTD.AVG.	21.34	1160	670	**	220	**	130	**	340

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3430	3570	2290	2850	2870	3010	3130	941	2070	1560	1700	1810
2	3440	2670	2300	2910	2850	2970	3140	966	2160	1570	1720	1820
3	3450	2350	2290	2730	2880	3070	3150	1160	2190	1590	1730	1830
4	3470	2020	2370	2910	2900	3080	3170	1110	2210	1530	1740	1840
5	3460	1860	2380	2850	2930	3120	3160	1220	2220	1510	1760	1860
6	3470	1790	2430	2770	2910	3060	3180	1320	2210	1550	1730	1870
7	3490	1830	2520	2840	2880	3100	3190	1600	2290	1530	1770	1860
8	3520	1890	2460	2870	2900	3080	3180	1630	2350	1550	1800	1880
9	3490	1920	2520	2840	3000	3040	3180	1680	2400	1530	1800	1890
10	3450	1940	2480	2900	2900	3090	3220	1700	2460	1510	1790	1900
11	3490	1950	2610	2810	2900	3060	3250	1580	2490	1080	1820	1890
12	3520	1970	2630	2880	2910	3050	3110	1520	2570	1150	1830	1910
13	3580	1980	2690	2780	2960	3040	2760	1560	2600	1240	1820	1920
14	3570	2090	2780	2790	2920	3020	2870	1570	2630	1280	1830	1930
15	3570	2020	2680	2800	2960	3070	2850	1580	2650	1360	1840	1950
16	3470	2030	2730	2780	2920	3170	2800	1610	2670	1450	1850	1960
17	3510	2040	2780	2840	2900	3120	2910	1620	2100	1530	1840	1970
18	3530	2050	2780	2850	2950	3150	2790	1650	1710	1480	1860	1960
19	3540	2070	2840	2820	2940	3130	1860	1670	1430	1390	1880	1950
20	3580	2090	2790	2810	2960	3140	1750	1680	1510	974	1890	680
21	3580	2020	2820	2870	2990	3150	1660	1700	1540	1140	1880	481
22	3580	2040	2870	2850	2980	3160	1640	1720	1550	1390	1880	386
23	3320	2090	2880	2880	2970	3150	1660	1770	1530	1400	1890	530
24	3510	2130	2880	2870	3050	3120	1620	1800	1540	1490	1900	603
25	3500	2060	2930	2880	3030	3150	1630	1830	1520	1460	1900	533
26	3500	2130	2920	2880	3060	3160	1640	1890	1530	1320	1890	603
27	3510	2110	2970	2950	2990	3170	1610	1970	1550	1350	1910	636
28	3520	2190	2900	2900	3030	3190	1060	2100	1540	1460	1900	745
29	3520	2250	2920	2960	3050	3200	852	1760	1560	1510	1920	697
30	3510	2290	2910	2920	---	3190	836	1950	1540	1570	1840	730
31	3540	---	2980	2930	---	3220	---	2160	---	1650	1920	---
MONTH	3500	2110	2690	2860	2950	3110	2430	1610	2010	1420	1830	1420

COLORADO RIVER BASIN

08127000 Elm Creek at Ballinger, Tex.--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.0	18.0	7.0	9.0	9.0	15.5	16.0	18.5	26.0	29.0	31.5	25.5
2	21.0	18.0	11.0	6.5	9.0	16.5	16.5	19.5	29.5	28.5	29.5	29.0
3	17.0	19.0	7.0	6.0	8.0	18.5	20.0	21.0	24.0	---	29.5	29.0
4	21.0	18.5	11.5	6.5	9.0	18.5	19.0	18.5	28.0	30.0	31.5	29.5
5	21.5	16.5	14.5	---	8.5	14.0	19.5	21.0	26.5	28.5	30.5	30.0
6	21.0	15.5	13.0	4.5	6.5	13.5	18.0	20.5	---	28.0	30.0	29.0
7	21.0	16.5	13.0	3.0	10.0	13.0	16.5	20.0	27.0	26.5	---	26.5
8	---	21.5	9.5	3.0	10.0	12.0	18.0	21.5	24.0	26.0	31.0	26.5
9	18.5	19.5	10.0	2.0	10.5	11.0	20.5	20.5	24.5	25.5	31.5	24.0
10	20.0	18.0	9.5	6.5	13.5	13.0	21.5	19.5	24.5	25.0	34.0	---
11	24.0	16.5	12.0	6.5	14.5	14.5	21.5	25.0	25.5	---	33.0	22.0
12	24.5	15.0	12.0	4.5	15.0	14.0	20.0	25.0	29.0	25.0	31.0	24.5
13	23.5	13.0	13.5	5.5	14.0	11.5	21.5	21.0	29.5	24.5	31.5	24.0
14	21.5	12.0	15.5	---	16.0	15.0	21.5	19.5	29.5	25.5	30.5	24.5
15	21.0	11.5	10.5	10.0	16.0	14.5	22.0	24.5	26.5	26.5	29.0	24.0
16	20.0	---	---	10.0	18.5	15.5	22.0	25.0	28.5	26.5	30.5	24.0
17	20.0	15.5	8.0	11.5	18.0	14.5	21.0	21.0	26.5	26.0	30.5	23.5
18	---	15.5	7.0	10.5	13.0	16.5	24.0	23.0	25.0	25.0	29.5	---
19	18.5	15.5	7.0	9.0	---	18.5	22.0	21.5	25.0	26.5	29.0	26.5
20	16.5	12.0	8.5	9.5	15.5	---	---	23.0	27.0	27.0	30.5	21.5
21	18.5	11.5	9.0	10.0	12.0	16.5	21.0	25.5	24.0	26.5	29.5	21.5
22	19.5	9.5	8.5	7.0	12.0	17.0	22.0	21.5	26.5	26.5	26.5	21.0
23	18.0	11.0	7.0	11.5	9.0	16.0	20.5	25.0	25.0	29.5	28.5	19.0
24	19.0	7.0	6.0	13.0	---	20.0	20.5	---	26.5	29.5	26.5	26.0
25	17.0	8.5	7.0	10.0	16.0	18.5	23.0	25.5	27.0	30.5	24.5	26.5
26	16.0	6.5	---	8.5	15.5	19.5	21.0	25.5	28.0	30.5	---	25.5
27	19.0	---	9.0	10.0	16.0	20.0	21.0	24.5	29.5	28.5	27.0	26.5
28	16.5	8.0	7.0	5.5	16.5	16.5	19.5	25.5	28.5	---	28.0	22.0
29	16.5	11.5	6.0	5.0	16.5	18.0	15.5	23.5	30.5	27.0	29.0	25.5
30	17.0	10.0	8.0	8.0	---	14.5	16.5	---	31.0	29.0	30.0	20.5
31	16.5	---	7.0	8.5	---	16.5	---	27.5	---	30.0	26.5	---
MONTH	19.5	14.0	9.5	7.5	13.0	16.0	20.0	23.0	27.0	27.5	29.5	25.0

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LOCATION (revised).--Lat 31°11'17", long 100°29'59", Tom Green County, on right bank at Christoval, 85 ft (26 m) downstream from point of diversion, and 100 ft (30 m) downstream from bridge on U.S. Highway 277.

GAGE.--Water-stage recorder. Datum of gage is 2,017.02 ft (614.788 m) above mean sea level.

EXTREMES.--Period of record: Maximum daily diversion for irrigation (excluding floodflow), 21 ft³/s (0.59 m³/s) June 27, 28, 1941, Sept. 18, 21, 1942; no flow Apr. 26 to July 9, 1957, Mar. 18 to Apr. 10, 1958, Oct. 19 to Nov. 2, 1966.

REMARKS.--Records good. The following table lists only irrigation water diverted from right bank of South Concho River 600 ft (180 m) upstream from station at Christoval (station 08128000).

REVISIONS (WATER YEARS).--WSP 1312: 1940-46.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.1	6.4	4.5	5.5	5.4	5.6	6.2	6.5	8.4	9.4	6.8	5.6
2	6.1	4.3	4.6	5.4	5.5	5.4	5.2	6.6	8.4	9.4	7.0	5.4
3	6.1	3.9	4.7	5.3	5.5	5.4	5.9	6.6	8.3	9.5	7.0	5.3
4	6.1	3.9	4.7	5.4	5.5	5.4	6.4	6.4	8.3	9.6	7.1	5.2
5	6.1	4.0	4.9	5.4	5.4	5.5	6.4	6.5	8.4	9.4	7.2	5.3
6	5.4	4.0	5.6	5.6	5.3	5.5	6.3	6.5	8.4	9.5	7.2	5.3
7	5.9	4.0	5.8	5.5	5.4	5.7	6.4	6.5	8.4	9.1	7.0	5.0
8	6.1	4.1	5.8	5.6	5.4	5.8	6.4	6.6	8.3	9.1	6.9	4.0
9	6.1	3.9	5.9	5.6	5.4	5.6	6.3	6.7	8.2	9.4	6.7	3.0
10	6.1	3.9	5.9	5.6	5.3	5.5	6.4	6.6	8.3	8.6	6.9	2.7
11	6.1	4.0	6.1	5.5	5.3	5.6	6.3	6.6	8.2	5.0	6.8	2.6
12	6.1	4.0	6.2	5.5	5.3	5.6	6.3	6.7	8.0	4.8	7.2	2.7
13	6.2	4.1	6.2	5.4	5.3	5.6	6.3	6.9	7.8	4.8	6.7	2.8
14	6.1	4.1	5.9	5.4	5.3	5.4	6.4	5.2	7.8	4.7	7.2	2.9
15	6.3	4.1	5.8	5.4	5.4	5.2	6.6	3.6	7.7	4.7	7.3	2.9
16	6.6	4.0	5.7	5.4	5.4	5.1	6.5	3.2	7.6	4.6	7.2	2.9
17	6.4	3.9	5.7	5.4	5.6	5.1	6.6	3.1	8.0	4.7	7.1	2.9
18	6.3	3.8	5.7	5.4	5.9	5.1	6.5	3.0	8.5	4.5	7.1	3.1
19	6.2	3.8	5.7	5.5	5.8	5.0	6.4	4.1	8.4	4.4	7.1	3.8
20	6.2	3.8	5.6	5.4	5.8	5.4	6.6	7.6	8.9	4.3	7.0	4.0
21	6.1	3.9	5.6	5.3	5.7	5.8	6.7	7.7	9.4	4.3	7.0	4.0
22	6.2	3.9	5.6	5.4	5.8	5.7	6.6	7.6	9.4	4.5	7.6	3.9
23	6.2	4.0	5.5	5.4	5.9	5.7	6.8	7.5	9.4	4.5	7.3	3.8
24	6.1	4.1	5.8	5.4	5.9	5.7	6.5	8.1	9.5	4.4	4.9	3.9
25	6.1	4.2	5.7	5.4	5.9	6.0	6.5	8.6	9.4	4.5	4.7	4.1
26	6.1	4.3	5.6	5.4	5.8	6.4	6.5	8.7	9.4	4.2	4.7	4.5
27	6.2	4.4	5.6	5.3	5.8	6.4	6.5	8.7	9.3	4.0	4.6	4.7
28	6.1	4.5	5.5	5.4	5.7	6.4	6.5	8.7	9.5	3.9	4.7	4.8
29	6.1	4.4	5.5	5.5	5.8	6.5	6.6	8.6	9.4	3.8	4.7	4.8
30	6.1	4.4	5.6	5.4	---	6.4	6.6	8.5	9.4	3.9	4.6	4.8
31	6.2	---	5.5	5.4	---	6.5	---	8.2	---	5.5	5.1	---
TOTAL	189.9	124.0	172.5	168.5	161.5	176.0	192.2	206.4	258.4	187.0	200.4	120.7
MEAN	6.13	4.13	5.56	5.44	5.57	5.68	6.41	6.66	8.61	6.03	6.46	4.02
MAX	6.6	6.4	6.2	5.6	5.9	6.5	6.8	8.7	9.5	9.6	7.6	5.6
MIN	5.9	3.8	4.5	5.3	5.3	5.0	5.2	3.0	7.6	3.8	4.6	2.6
AC-FT	377	246	342	334	320	349	381	409	513	371	397	239
CAL YR 1975	TOTAL	2299.1		MEAN 6.30	MAX	10	MIN 1.7	AC-FT	4560			

COLORADO RIVER BASIN

08128000 South Concho River at Christoval, Tex.

LOCATION (revised).--Lat 31°11'15", long 100°30'06", Tom Green County, near center of stream on downstream side of center pier of Panhandle and Santa Fe Railway Co. bridge at Christoval, 9.5 miles (15.3 km) upstream from Twin Buttes Dam, and at mile 23.7 (38.1 km).

DRAINAGE AREA.--409 mi² (1,059 km²), of which 65 mi² (168 km²) is probably noncontributing.

PERIOD OF RECORD.--February 1930 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 2,010.22 ft (612.715 m) above mean sea level. Prior to July 17, 1930, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--46 years, 33.1 ft³/s (0.937 m³/s), 23,980 acre-ft/yr (29.6 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 2,460 ft³/s (69.7 m³/s) Sept. 8 (gage height, 6.10 ft or 1.859 m); minimum, 25 ft³/s (0.71 m³/s) June 12-14.

Period of record: Maximum discharge, 100,000 ft³/s (2,830 m³/s) July 23, 1938 (gage height, 21.95 ft or 6.690 m, from floodmarks), from rating curve extended above 15,100 ft³/s (428 m³/s) on basis of slope-area measurement of 80,100 ft³/s (2,270 m³/s); no flow Feb. 28, Mar. 1, 1955.

Maximum stage since 1882, about 23 ft (7.0 m) Aug. 6, 1906 (discharge, 115,000 ft³/s or 3,260 m³/s, from rating curve as noted above), from information by local residents.

REMARKS.--Records good except those for period of no gage-height record, which are fair. Low flow is materially affected by diversion to South Concho Irrigation Co.'s canal (station 08127500) 600 ft (180 m) upstream from station.

REVISIONS (WATER YEARS).--WSP 1118: 1943(M). WSP 1922: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	42	47	41	36	33	34	34	30	26	33	40
2	41	54	47	41	36	32	35	33	29	26	32	32
3	41	46	46	41	36	32	34	33	29	26	32	33
4	41	45	47	41	36	32	36	33	29	40	32	33
5	42	45	47	41	35	32	35	35	29	35	32	33
6	41	47	45	41	35	33	35	34	28	30	32	33
7	41	47	45	40	36	33	35	33	28	30	31	200
8	41	48	45	41	35	33	35	34	28	30	31	395
9	41	48	43	40	36	32	35	34	28	38	31	103
10	40	49	43	40	33	32	34	33	28	38	31	46
11	41	49	43	41	33	32	34	33	28	34	31	43
12	42	49	43	40	34	33	35	33	27	36	31	44
13	41	49	43	39	34	33	34	33	26	38	31	45
14	41	49	43	39	34	32	34	33	26	36	31	46
15	43	49	43	39	34	32	36	35	27	36	31	47
16	47	50	43	39	33	32	35	35	27	36	31	47
17	43	49	42	39	34	32	35	35	27	38	31	47
18	43	49	43	39	33	32	35	34	26	36	31	49
19	43	49	43	39	33	32	35	34	26	36	31	54
20	42	48	43	37	34	32	34	31	26	36	31	397
21	42	48	42	37	33	31	34	31	26	36	30	111
22	45	47	42	37	33	34	34	31	26	36	29	62
23	44	47	43	37	33	38	36	31	26	36	29	57
24	43	47	44	37	33	38	34	31	26	36	30	57
25	43	48	43	37	33	37	33	30	26	38	30	58
26	43	47	41	37	33	34	33	30	26	37	29	59
27	43	47	41	36	33	34	35	30	26	35	31	59
28	43	47	41	36	33	34	35	29	26	35	31	59
29	43	47	41	37	33	35	34	30	26	35	33	59
30	43	47	41	37	---	34	34	30	26	35	33	59
31	43	---	41	36	---	34	---	29	26	34	32	---
TOTAL	1312	1433	1344	1202	987	1029	1037	1004	812	1074	964	2407
MEAN	42.3	47.8	43.4	38.4	34.0	33.2	34.6	32.4	27.1	34.6	31.1	80.2
MAX	47	54	47	41	36	38	36	35	30	40	33	397
MIN	40	42	41	36	33	31	33	29	26	26	29	32
AC-FT	2600	2840	2670	2380	1960	2040	2060	1990	1610	2130	1910	4770

CAL YR 1975 TOTAL 22396 MEAN 61.4 MAX 133 MIN 39 AC-FT 44420
WTR YR 1976 TOTAL 14605 MEAN 39.9 MAX 397 MIN 26 AC-FT 28970

PEAK DISCHARGE (BASE, 160 FT³/S).--Sept. 8 (0100) 2,460 ft³/s (6.10 ft); Sept. 20 (0915) 998 ft³/s (4.27 ft).

NOTE.--No gage-height record June 16 to July 25.

COLORADO RIVER BASIN

77

08128400 Middle Concho River above Tankersley, Tex.

LOCATION.--Lat 31°25'38", long 100°42'39", Irion County, on left bank 0.3 mile (0.5 km) upstream from East Rocky Creek, 0.5 mile (0.8 km) southwest of Tullios Ranch headquarters, 6.7 miles (10.8 km) northwest of Tankersley, and at mile 20.9 (33.6 km).

DRAINAGE AREA.--2,436 mi² (6,309 km²), of which 1,055 mi² (2,732 km²) is probably noncontributing.

PERIOD OF RECORD.--March 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,986.47 ft (605.476 m) above mean sea level.

AVERAGE DISCHARGE.--15 years, 18.4 ft³/s (0.521 m³/s), 13,330 acre-ft/yr (16.4 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 4,410 ft³/s (125 m³/s) May 12 (gage height, 15.51 ft or 4.727 m); minimum, 0.04 ft³/s (0.001 m³/s) Aug. 24-26.

Period of record: Maximum discharge, 15,500 ft³/s (439 m³/s) Sept. 21, 1974 (gage height, 24.98 ft or 7.614 m); no flow at times. Maximum stage since 1900, 29.5 ft (8.99 m) Sept. 26, 1936. A flood in 1900 reached the same stage, from information by local resident.

REMARKS.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	8.6	12	15	15	14	12	24	7.1	6.4	11	2.2
2	3.2	27.6	12	15	15	14	12	23	7.0	4.7	10	4.2
3	3.0	4.9	12	15	15	14	12	20	6.2	3.6	17	3.8
4	3.2	30	13	14	15	14	856	21	5.4	4.6	9.0	4.8
5	3.3	19	13	14	15	13	92	21	6.5	4.9	7.5	4.0
6	3.3	15	13	15	15	13	47	22	6.6	3.5	6.5	3.9
7	3.3	13	12	15	15	13	34	21	6.6	2.9	5.7	5.2
8	3.3	11	12	14	15	15	27	20	6.3	2.5	4.4	8.4
9	3.3	11	12	14	15	15	24	20	5.4	2.4	3.5	7.6
10	3.3	9.7	13	14	14	15	22	10	5.6	5.5	2.9	6.5
11	3.4	9.5	13	15	15	15	20	18	4.7	7.0	2.3	5.5
12	3.3	9.2	13	15	15	14	19	356	4.6	9.1	1.8	4.8
13	3.3	8.6	14	15	15	14	19	124	4.2	9.5	1.4	4.2
14	3.2	8.6	14	15	15	14	18	19	3.7	12	1.2	3.7
15	3.2	8.6	14	15	15	14	18	15	3.3	14	.88	3.5
16	11	9.0	13	15	15	14	22	14	2.8	11	.72	3.2
17	14	9.8	13	15	15	14	23	13	2.7	12	.59	3.0
18	10	10	13	15	14	13	23	12	2.6	12	.53	2.9
19	8.9	12	13	15	14	13	21	11	2.6	12	.58	4.1
20	7.7	11	13	15	14	13	20	13	2.4	11	.52	6.7
21	7.1	11	13	15	13	13	20	14	2.3	10	.32	7.9
22	8.7	11	13	15	13	13	19	13	2.0	10	.26	10
23	11	11	13	15	13	12	42	11	1.8	12	.15	9.4
24	9.6	11	15	15	13	13	40	12	1.7	12	.08	7.8
25	7.9	11	16	16	13	14	26	12	1.6	28	.04	7.1
26	7.8	11	16	15	13	12	21	10	1.5	20	.12	6.5
27	7.8	12	15	15	13	12	21	0.5	21	29	.41	5.9
28	7.8	12	15	15	14	12	45	9.0	16	25	.72	5.3
29	7.8	13	15	15	14	12	51	4.6	11	18	.52	5.2
30	7.8	13	15	15	---	11	34	4.1	8.4	15	.51	4.9
31	8.2	---	15	15	---	11	---	7.6	---	13	.54	---
TOTAL	192.7	694.6	418	461	415	413	1700	928.8	164.6	342.6	91.69	162.2
MEAN	6.22	23.2	13.5	14.9	14.3	13.3	56.7	30.0	5.49	11.1	2.96	5.41
MAX	14	276	16	16	15	15	856	356	21	29	17	10
MIN	3.0	8.6	12	14	13	11	12	7.6	1.5	2.4	.04	2.2
AC-FT	382	1380	429	914	823	819	3370	1840	326	680	182	322

CAL YR 1975 TOTAL 7805.59 MEAN 21.4 MAX 789 MIN .56 AC-FT 15480
WTR YR 1976 TOTAL 5984.19 MEAN 16.4 MAX 856 MIN .04 AC-FT 11870

1K DISCHARGE (BASE, 1,700 FT³/S).--Apr. 4 (1300) 2,310 ft³/s (12.70 ft); May 12 (2230) 4,410 ft³/s (15.51 ft).

COLORADO RIVER BASIN

08129300 Spring Creek above Tankersley, Tex.

LOCATION.--Lat 31°19'48", long 100°38'24", Tom Green County, on right bank at downstream side of bridge on Farm Road 2335, 1.4 miles (2.3 km) south of Tankersley, and 2.5 miles (4.0 km) upstream from Dove Creek.

DRAINAGE AREA.--424 mi² (1,098 km²), of which 28 mi² (73 km²) is probably noncontributing.

PERIOD OF RECORD.--October 1960 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,964.72 ft (598.847 m) above mean sea level. Prior to Nov. 10, 1960, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--16 years, 14.2 ft³/s (0.402 m³/s), 10,290 acre-ft/yr (12.7 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 278 ft³/s (7.87 m³/s) Nov. 2 (gage height, 5.17 ft or 1.576 m); minimum, 0.62 ft³/s (0.018 m³/s) June 22.

Period of record: Maximum discharge, 30,400 ft³/s (861 m³/s) Aug. 12, 1971 (gage height, 16.57 ft or 5.051 m); no flow at times most years.

Maximum stages since at least 1853 occurred in 1882 and 1884 (stages unknown) and Oct. 3, 1959 (18.4 ft or 5.61 m). At former gage (Spring Creek near Tankersley) 8 miles (13 km) downstream, the flood of Oct. 3, 1959 (82,100 ft³/s or 2,330 m³/s), was found to be about 3 ft (0.9 m) lower than the 1882 flood, the greatest at that location since at least 1853.

REMARKS.--Records good. Many small diversions above station for irrigation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	21	25	31	17	13	6.0	17	6.7	2.3	17	21
2	16	129	25	28	16	14	6.7	16	6.8	2.0	17	17
3	15	53	24	26	16	13	8.5	15	8.2	1.4	22	14
4	15	32	25	24	17	15	17	13	4.7	9.0	15	13
5	16	30	23	24	17	12	17	17	6.4	8.9	15	11
6	16	27	20	21	17	14	18	18	7.8	7.7	13	11
7	16	26	20	20	19	13	15	21	7.2	3.4	12	17
8	14	25	23	19	14	14	14	21	4.3	2.4	13	20
9	12	24	22	20	17	14	13	18	7.3	6.3	13	18
10	9.9	28	23	19	15	16	12	14	6.4	9.4	10	18
11	9.1	26	24	18	14	19	14	14	6.5	12	10	18
12	14	22	20	19	15	11	16	14	5.3	17	9.0	18
13	13	22	22	18	13	10	13	13	5.3	15	13	16
14	13	23	24	19	16	14	7.2	12	4.8	23	7.5	16
15	14	23	26	18	25	10	13	12	5.2	24	4.0	15
16	29	25	24	19	19	12	19	15	5.2	22	3.2	16
17	23	27	22	20	15	15	17	15	2.2	27	1.8	16
18	20	27	22	20	15	14	20	9.9	1.9	64	1.1	16
19	20	23	21	20	16	15	22	7.1	1.2	55	4.6	17
20	19	23	26	20	13	13	18	7.9	1.0	36	4.0	19
21	19	23	30	20	15	16	15	9.1	.86	33	4.3	18
22	22	23	30	20	17	15	18	7.1	.74	30	9.3	16
23	24	24	30	19	14	14	43	6.4	.88	25	9.3	16
24	22	24	34	20	11	15	24	6.5	1.3	22	7.2	17
25	20	24	32	22	12	13	18	4.8	1.0	21	8.6	16
26	21	22	31	20	9.9	18	16	5.0	2.7	21	19	15
27	20	22	32	20	8.2	17	16	6.2	3.1	21	15	14
28	22	24	31	18	8.3	16	17	4.0	4.2	18	10	15
29	22	26	31	19	9.9	10	17	7.9	4.4	19	6.5	16
30	22	24	31	19	8.2	3.5	16	7.7	1.9	19	8.3	16
31	23	---	31	18	---	5.4	---	9.0	---	17	9.4	---
TOTAL	557.0	876	809	638	435.3	418.9	486.4	367.6	125.48	593.8	312.1	486
MEAN	18.0	29.2	26.1	20.6	15.0	13.5	16.2	11.9	4.18	19.2	10.1	16.2
MAX	29	129	34	31	25	19	43	21	9.2	64	22	21
MIN	9.1	21	20	18	8.2	3.5	6.0	4.8	.74	1.4	1.1	11
AC-FT	1100	1740	1600	1270	863	831	965	729	249	1180	619	964

CAL YP 1975 TOTAL 13569.10 MEAN 37.2 MAX 3530 MIN 7.4 AC-FT 26910
WTR YP 1976 TOTAL 6105.58 MEAN 16.7 MAX 129 MIN .74 AC-FT 12110

PEAK DISCHARGE (BASE, 400 FT³/S).--No peak above base.

COLORADO RIVER BASIN

79

08130500 Dove Creek at Knickerbocker, Tex.

LOCATION.--Lat 31°16'24", long 100°37'45", Tom Green County, on right bank at right end of bridge on Farm Road 2335, 0.4 mile (0.6 km) west of Knickerbocker, and 5.4 miles (8.7 km) upstream from mouth.

DRAINAGE AREA.--229 mi² (593 km²), of which 31 mi² (80.3 km²) is probably noncontributing.

PERIOD OF RECORD.--October 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,001.45 ft (610.042 m) above mean sea level. Prior to Nov. 10, 1960, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--16 years, 15.7 ft³/s (0.445 m³/s), 11,370 acre-ft/yr (14.0 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 3,620 ft³/s (103 m³/s) Sept. 7 (gage height, 11.52 ft or 3.511 m); minimum, 11 ft³/s (0.31 m³/s) June 28.

Period of record: Maximum discharge, 17,500 ft³/s (496 m³/s) Aug. 12, 1971 (gage height, 20.66 ft or 6.297 m); no flow at times. Maximum stage since at least 1882, 30.4 ft (9.27 m) in 1906 and Oct. 3, 1959; floods in 1882 and 1884 reached about the same stage, from information by local resident.

REMARKS.--Records good except those for period of no gage-height record, which are fair. Flow is partly regulated by storage and diversion from two small channel dams upstream and by many small diversions upstream for irrigation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	32	39	46	35	31	27	29	26	16	35	71
2	33	643	39	40	35	30	27	29	25	18	35	37
3	34	103	39	41	35	30	27	29	25	19	36	36
4	34	44	39	40	35	30	28	29	24	22	35	36
5	33	43	39	40	35	29	30	30	18	21	34	36
6	33	42	39	40	35	29	29	30	19	20	34	36
7	34	40	39	39	34	30	29	29	20	19	33	310
8	34	41	39	39	34	30	29	29	18	18	33	59
9	33	41	39	39	34	29	24	29	17	22	33	41
10	33	41	39	39	34	29	23	29	17	23	32	35
11	33	42	39	38	34	29	23	29	17	23	32	35
12	33	40	39	37	34	29	22	29	17	23	32	34
13	33	41	39	38	33	28	26	28	17	22	32	34
14	32	41	39	38	33	29	27	28	16	24	31	34
15	34	41	40	38	33	29	29	28	15	29	30	34
16	34	40	40	37	32	28	30	29	14	27	30	34
17	34	40	40	37	32	28	29	30	14	30	30	34
18	33	42	40	37	31	27	29	30	15	28	30	34
19	33	41	40	37	31	27	29	30	15	28	29	35
20	33	39	40	37	31	26	27	30	19	27	28	39
21	33	39	40	37	30	26	25	31	18	26	28	36
22	40	39	40	37	31	26	24	31	18	28	28	35
23	35	39	40	37	32	27	33	30	19	28	29	35
24	32	39	40	37	31	25	26	31	17	27	29	35
25	32	39	40	36	31	22	25	28	15	31	36	35
26	32	39	40	35	31	23	24	27	16	42	38	35
27	32	39	40	35	31	23	24	26	17	36	30	35
28	32	39	40	35	31	25	24	31	15	36	28	35
29	32	39	40	36	31	24	24	31	17	36	30	35
30	32	39	40	35	---	24	24	30	15	36	30	35
31	32	---	40	35	---	27	---	29	---	36	29	---
TOTAL	1030	1867	1226	1165	949	849	821	908	535	821	979	1395
MEAN	33.2	62.2	39.5	37.6	32.7	27.4	27.4	29.3	17.8	26.5	31.6	46.5
MAX	40	643	40	40	35	31	33	31	26	42	38	310
MIN	29	32	39	35	30	22	22	26	14	16	28	34
AC-FT	2040	3700	2430	2310	1880	1680	1630	1500	1060	1630	1940	2770

CAL YR 1975 TOTAL 18695 MEAN 51.2 MAX 2490 MIN 25 AC-FT 37080
WTR YR 1976 TOTAL 12545 MEAN 34.3 MAX 643 MIN 14 AC-FT 24880

PEAK DISCHARGE (BASE, 100 FT³/S)

DATE	TIME	G.HT.	DISCHARGE
11-2	1600	9.77	2,120
9-1	1130	4.79	182
9-7	1900	11.52	3,620

NOTE.--No gage-height record Nov. 26 to Jan. 4.

COLORADO RIVER BASIN

08131200 Twin Buttes Reservoir near San Angelo, Tex.

LOCATION.--Lat 31°22'59", Long 100°32'11", Tom Green County, in outlet control tower at Twin Buttes Dam on Middle Concho River, Spring Creek, and South Concho River, 3.8 miles (6.1 km) upstream from Lake Nasworthy Dam, 8.1 miles (13.0 km) southwest of San Angelo, and at mile 75.0 (120.7 km).

DRAINAGE AREA.--3,724 mi² (9,645 km²), of which 1,178 mi² (3,051 km²) is probably noncontributing.

PERIOD OF RECORD.--Contents: October 1962 to current year.

Water quality: Chemical analyses: October 1969 to current year.

GAGE.--Water-stage recorder on Middle Concho-Spring Creek pool and nonrecording gage on South Concho pool. Datum of gages is at mean sea level.

EXTREMES.--Current year: Maximum contents, 186,900 acre-ft (230 hm³) May 12 (elevation, 1,940.28 ft or 591.397 m); minimum, 163,700 acre-ft (202 hm³) Aug. 29 (elevation, 1,937.58 ft or 590.574 m).

Period of record: Maximum contents, 205,200 acre-ft (253 hm³) May 12, 1975 (elevation, 1,942.20 ft or 591.983 m); minimum since first appreciable storage, 2,120 acre-ft (2.61 hm³) Apr. 15, 1971.

REMARKS.--The reservoir is formed by a rolled earthfill dam 8.1 miles (13.0 km) long, including a 200-foot-wide (61-meter) uncontrolled off-channel concrete gravity spillway with ogee weir section. Outlet works consist of three 15.5-foot (4.7-meter) concrete conduits, each is controlled by a 12.0- by 15.0-foot (3.7- by 4.6-meter) fixed-wheel gate and a 12.0- by 15.0-foot (3.7- by 4.6-meter) radial gate, located in Middle Concho-Spring Creek pool. Low-flow releases are made through 2.0- by 2.0-foot (0.6- by 0.6-meter) gates located in the center of three fixed-wheel gates. The South Concho and Middle Concho-Spring Creek pools are connected by a 3.22-mile (5.18-kilometer) equalizing channel. At an elevation of 1,925 ft (586.7 m) the two pools join to form one lake. Deliberate impoundment of water began on Dec. 1, 1962; dam was completed Feb. 13, 1963. Capacity curve is based on a survey made in 1958. Reservoir was built for flood control, irrigation, and municipal uses. Data regarding the dam and reservoir are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	1,991.0	-
Crest of spillway.....	1,969.1	640,600
Top of conservation storage.....	1,940.2	186,200
Bottom of equalizing channel.....	1,925.0	84,760
Dead storage in South Concho pool.....	1,925.0	4,600
Lowest gated outlet (invert at Middle Concho-Spring Creek pool).....	1,885.0	3,750

COOPERATION.--Record of elevations furnished by city of San Angelo. Capacity curve furnished by the U.S. Bureau of Reclamation.

Capacity table (elevation, in feet, and contents, in acre-feet)

1,937.0	159,000	1,940.0	184,400
1,938.5	171,300	1,941.0	193,600

CONTENTS, IN ACRES-FEET, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	174100	174400	180000	182700	184500	185500	180400	185100	183700	171100	172200	165000
2	173900	177700	179900	182800	184500	185500	180200	185200	183500	170600	172500	165000
3	173900	178500	180000	182800	184600	185600	180100	185200	183300	170600	172500	165200
4	173800	178600	180100	182900	184500	185400	182300	185100	183000	170900	172400	165200
5	173700	178800	180200	183000	184600	185100	182800	185600	183000	170800	172200	165200
6	173700	179000	180300	182900	184600	185000	183000	185500	182600	170800	171900	166400
7	173600	179000	180500	182900	184800	185100	183000	185200	182200	170700	171500	167300
8	173400	179200	180700	183000	184800	185200	183000	185200	182000	170600	171100	168400
9	173400	179200	180700	183000	185100	185200	183000	185300	181500	170900	170600	168400
10	173300	179200	181000	183100	185100	185200	183000	185300	181200	171100	170200	168600
11	173200	179300	180900	183200	185100	185300	183000	185300	180800	171100	169800	168800
12	173000	179200	180900	183300	185300	184900	183200	185700	180400	171100	169300	168700
13	172800	179300	181300	183300	185500	184800	183200	186800	179900	171300	168800	168800
14	172800	179300	181200	183500	185600	184700	183600	186700	179300	171700	168300	168800
15	173300	179300	181200	183600	185700	184400	183700	186700	178800	171900	167700	168900
16	174000	179400	181300	183600	185800	184400	184100	186500	178500	172000	167200	168900
17	173900	179500	181100	183700	185900	184000	183700	186300	178000	172300	167000	168800
18	174000	179800	181200	183800	185900	183900	183700	186100	177500	172400	166400	168900
19	174000	179800	181300	183700	185900	183700	183700	185900	177200	172400	166200	169500
20	174000	179800	181300	183900	185800	183300	183400	185800	176800	172300	165900	170200
21	174000	179800	181400	184000	185700	183000	183300	185700	176400	172200	165700	170400
22	174500	179800	181400	184200	185700	182800	183200	185600	175700	172500	165500	170500
23	174500	179900	181500	184300	185700	182600	184500	185400	175400	172500	165300	170600
24	174400	179800	181800	184500	185700	182400	184500	185400	174900	172600	164800	170600
25	174400	176600	182000	184300	185500	182400	184600	185300	174400	172600	164600	170700
26	174400	179800	182100	184400	185500	182000	184500	184800	174000	172800	164300	170700
27	174300	179800	182200	184400	185500	181700	184500	184600	173500	172700	164200	170600
28	174300	179900	182200	184400	185500	181700	184900	184500	173000	172600	163800	170700
29	174300	180000	182300	184400	185500	181100	185000	184300	172400	172500	164000	170800
30	174300	179800	182600	184500	---	180900	185100	184100	171700	172400	163900	170800
31	174400	---	182800	184500	---	180700	---	183700	---	172300	163800	---
(†)	1938.86	1939.48	1939.82	1940.01	1940.12	1939.58	1940.08	1939.93	1938.55	1938.62	1937.60	1938.44
(*)	0	+5400	+3000	+1700	+1000	-4800	+4400	-1400	-12000	+600	-8500	+7000
MAX	174500	180000	182800	184500	185900	185600	185100	186800	183700	172800	172500	170800
MIN	172800	174400	179900	182700	184500	180700	180100	183700	171700	170600	163800	165000

CAL YR 1975..... * -4900 MAX 204700 MIN 172800
WTR YR 1976..... * -3600 MAX 186800 MIN 163800

† Elevation, in feet, at end of month.
* Change in contents, in acre-feet.

COLORADO RIVER BASIN

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08131200 Twin Buttes Reservoir near San Angelo, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA, MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG)	DISSOLVED SODIUM (NA) (MG/L)
JAN 05...	1400	626	8.3	7.5	210	44	52	19	43
SEP 10...	1300	631	7.9	23.0	190	40	42	20	50
DATE	SODIUM ADSORPTION RATIO	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SiO2) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
JAN 05...	1.3	5.5	200	0	39	68	.3	12	337
SEP 10...	1.6	4.6	180	0	34	85	.3	13	338

COLORADO RIVER BASIN

08131400 Pecan Creek near San Angelo, Tex.

LOCATION.--Lat 31°18'32", long 100°26'44", Tom Green County, on left bank 200 ft (61 m) upstream from U.S. Highway 277, 3.6 miles (5.8 km) upstream from mouth, and 10.5 miles (16.9 km) south of San Angelo.

DRAINAGE AREA.--83.2 mi² (215.5 km²).

PERIOD OF RECORD.--June 1961 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,930.72 ft (588.483 m) above mean sea level. Prior to Apr. 30, 1968, at site 1.2 miles (1.9 km) downstream at datum 20.21 ft (6.160 m) lower.

AVERAGE DISCHARGE.--15 years, 1.51 ft³/s (0.0428 m³/s), 0.25 in/yr (6 mm/yr), 1,090 acre-ft/yr (1.34 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 391 ft³/s (11.1 m³/s) Sept. 7 (gage height, 1.52 ft or 0.463 m); no flow for many days.

Period of record: Maximum discharge, 6,780 ft³/s (192 m³/s) Sept. 24, 1964 (gage height, 11.15 ft or 3.399 m, site and datum then in use), from rating curve extended above 2,100 ft³/s (59.5 m³/s) on basis of slope-area measurement of 30,500 ft³/s (864 m³/s); no flow most of time each year.

Maximum stage since at least 1908, 14.36 ft (4.377 m), former site and datum, Sept. 15, 1936 (discharge, 30,500 ft³/s or 864 m³/s by slope-area measurement).

REMARKS.--Records good. No known diversions above station.

REVISIONS (WATER YEARS).--WRD TX-75-1: 1971, 1972(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.20	.55	1.5	1.5	1.1	.88	.29	5.4		0		0
2	.18	6.4	1.5	1.5	1.1	.84	.30	5.1		0		0
3	.14	6.4	1.5	1.4	.88	.74	.30	3.2		30		0
4	.20	2.5	1.5	1.2	.82	.86	.43	2.0		1.1		0
5	.22	2.0	1.5	1.3	.88	.82	.88	2.1		.09		0
6	.21	1.6	1.5	1.2	.88	.64	.30	1.2		.15		0
7	.18	1.5	1.5	1.4	1.2	1.3	.58	.63		.05		58
8	.18	1.5	1.5	1.2	1.5	1.4	.59	.47		0		11
9	.16	1.2	1.5	1.4	1.3	1.5	.43	.44		0		1.2
10	.14	1.2	1.5	1.5	.49	1.5	.32	.44		0		.55
11	.14	1.2	1.5	1.5	1.2	1.4	.31	.34		0		.28
12	.16	1.2	1.5	1.5	1.2	1.4	.30	.66		.01		.20
13	.15	1.2	1.5	1.7	.81	.88	.33	2.0		0		.14
14	.14	1.2	1.5	1.5	.52	.65	.31	.94		.01		.17
15	.27	1.3	1.5	1.5	.44	.63	.41	.35		.03		.17
16	1.4	1.5	1.5	1.5	.53	.63	.65	.27		.03		.17
17	1.4	1.5	1.5	1.5	.4	.51	.63	.22		.02		.17
18	1.3	1.2	1.5	1.2	.7	.45	.35	.21		.01		.21
19	.73	1.4	1.5	1.2	.63	.7	.31	.18		0		2.0
20	.43	1.5	1.5	1.4	.65	.67	.30	.18		0		6.4
21	.34	1.5	1.5	1.2	.54	.63	.26	.19		0		2.4
22	1.0	1.5	1.5	1.3	.44	.63	.24	.18		0		.96
23	1.4	1.5	1.5	1.3	.46	.44	.22	.15		.14		.88
24	1.1	1.5	1.5	1.5	.47	.44	4.5	.12		.25		.88
25	.63	1.6	2.0	1.5	.44	.52	4.6	.12		.07		.88
26	.77	2.0	2.0	1.2	.88	.62	3.4	.10		.03		1.0
27	.48	1.6	2.0	1.2	.9	.34	3.3	.07		.02		.99
28	.48	1.6	2.0	1.2	.97	.42	4.5	.07		.01		.88
29	.48	1.8	2.0	1.2	.88	.52	5.9	.05		0		.88
30	.48	1.9	2.0	1.2	---	.31	6.2	.02		0		.88
31	.59	---	2.0	1.2	---	.30	---	0	---	0		---
TOTAL	12.42	54.35	50.3	42.1	25.41	23.77	51.02	27.40	0	32.02	0	91.29
MEAN	.59	1.81	1.62	1.36	.88	.77	1.70	.88	0	1.03	0	3.04
MAX	1.4	6.4	2.0	1.7	1.5	1.4	9.2	5.4	0	30	0	58
MIN	.14	.55	1.5	1.2	.44	.30	.24	0	0	0	0	0
CFSM	.007	.02	.02	.02	.01	.009	.02	.01	0	.01	0	.04
IN.	.004	.02	.02	.02	.01	.01	.02	.01	0	.01	0	.04
AC-FT	37	108	100	84	50	48	101	54	0	64	0	181

CAL YR 1976 TOTAL 1864.18 MEAN 4.44 MAX 121 MIN .10 CFSM .05 IN .41 AC-FT 3580
WTR YR 1976 TOTAL 416.28 MEAN 1.14 MAX 58 MIN 0 CFSM .01 IN .19 AC-FT 826

PEAK DISCHARGE (BASE, 100 FT³/S).--July 3 (1700) 333 ft³/s (1.44 ft); Sept. 7 (1500) 391 ft³/s (1.52 ft).

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LOCATION.--Lat 31°24'58", long 100°23'23", Tom Green County, on left bank 1,900 ft (579 m) downstream from U.S. Highway 87, 4.3 miles (6.9 km) south of San Angelo, and 7.0 miles (11.3 km) downstream from Lake Nasworthy.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 1,855.33 ft (565.505 m) above mean sea level (Bureau of Reclamation reference mark).

EXTREMES.--Period of record: Maximum daily discharge, 101 ft³/s (2.86 m³/s) Mar. 28, 1972; no flow for long periods.

REMARKS.--Records good. Discharge represents water released from Lake Nasworthy, principally for irrigation. Local flood runoff is excluded.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	2.4			0	8.1	64	2.3	6.2	87	0	2.1
2	6.8	2.4			0	13	59	2.2	20	88	8.0	.10
3	4.0	.83			0	14	52	2.2	46	65	21	0
4	.83	.33			0	12	39	2.2	55	.27	41	0
5	.16	.24			0	13	.72	2.5	56	.12	60	0
6	.05	.16			0	16	.01	2.2	64	.06	73	0
7	.01	.10			0	17	.01	6.6	73	0	74	0
8	.01	.10			0	18	0	7.1	74	0	73	0
9	.01	.10			0	24	0	9.0	74	0	73	0
10	5.6	.19			0	28	0	15	79	0	73	0
11	7.6	.05			0	39	6.1	19	86	0	68	0
12	7.6	.05			0	46	13	30	77	0	64	0
13	7.6	.05			0	46	2.3	30	64	0	64	0
14	7.2	.02			0	47	3.6	38	58	0	63	0
15	7.9	.02			0	51	5.7	50	58	0	58	0
16	10	.02			8.3	54	6.6	52	59	0	58	0
17	6.6	.01			17	58	.09	52	64	0	64	0
18	5.9	.01			5.9	64	0	44	71	0	63	0
19	5.9	.01			5.6	66	6.4	43	71	0	63	0
20	6.6	0			5.3	64	13	42	70	0	66	0
21	11	0			4.6	71	13	36	69	0	65	0
22	13	0			5.3	84	8.1	33	68	0	68	0
23	5.0	0			6.2	87	7.2	29	67	0	57	0
24	9.8	0			5.0	87	.02	29	81	0	50	0
25	10	0			5.0	87	0	27	85	0	49	0
26	9.8	0			5.3	86	0	16	85	0	44	0
27	9.8	0			5.6	91	0	7.3	90	0	33	0
28	10	0			5.6	89	.01	6.2	90	0	24	0
29	9.8	0			5.3	80	.52	6.1	89	0	18	0
30	9.8	0			---	78	.84	6.1	90	0	13	0
31	9.0	---			---	75	---	6.0	---	0	1.9	---
TOTAL	203.57	7.00			90.0	1613.1	301.22	653.0	2039.2	240.45	1549.9	2.20
MEAN	6.57	.23	0	0	3.10	52.0	10.0	21.1	68.0	7.76	50.0	.073
MAX	13	2.4	0	0	17	91	64	52	90	88	74	2.1
MIN	.01	0	0	0	0	8.1	0	2.2	6.2	0	0	0
AC-FT	404	14	0	0	179	3200	597	1300	4040	477	3070	4.4
CAL YR 1975	TOTAL	7533.76	MEAN	20.6	MAX	98	MIN	0	AC-FT	14940		
WTR YR 1976	TOTAL	6699.64	MEAN	18.3	MAX	91	MIN	0	AC-FT	13290		

08132000 Lake Nasworthy near San Angelo, Tex.

LOCATION.--Lat 31°23'19", long 100°28'41", Tom Green County, on left bank 250 ft (76 m) upstream from Nasworthy Dam on South Concho River, 3.8 miles (6.1 km) downstream from Twin Buttes Dam, 6 miles (10 km) southwest of San Angelo, and at mile 68.9 (110.9 km).

DRAINAGE AREA.--3,833 mi² (9,927 km²), of which 3,724 mi² (9,645 km²) is above Twin Buttes Reservoir and 1,178 mi² (3,051 km²) is probably noncontributing.

PERIOD OF RECORD.--Contents: March 1930 to current year. Prior to October 1969, monthend contents only.
Water quality: Chemical analyses: October 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,840.00 ft (560.832 m) above mean sea level.

EXTREMES.--Current year: Maximum contents, 11,010 acre-ft (13.6 hm³) May 13 (gage height, 31.34 ft or 9.552 m); minimum, 10,260 acre-ft (12.7 hm³) Aug. 6 (gage height, 30.85 ft or 9.403 m).
Period of record: Maximum contents, 26,900 acre-ft (33.2 hm³) Sept. 15, 1936 (gage height, 38.36 ft or 11.692 m); minimum, 209 acre-ft (0.258 hm³) Aug. 22, 1964 (gage height, 13.21 ft or 4.026 m).

REMARKS.--The lake is formed by a 6,090-foot (1,860-meter) dam with a 5,590-foot (1,700-meter) earthen section, an earthen spillway 300 ft (91 m) long, a concrete spillway 375 ft (114 m) long with a bank of fifteen 18.0- by 25.0-foot (5.5- by 7.6-meter) tainter gates, and a collapsible floodgate. The dam was completed and storage began Mar. 28, 1930. Since July 1966, West Texas Utilities Co. has operated a steam generating powerplant on Lake Nasworthy. Since September 1962, the lake has been almost totally controlled by releases or pumpage from Twin Buttes Reservoir (station 08131200). Since 1955, figures of contents and capacities have been adjusted for sedimentation. Siltation surveys in December 1938 and May 1953 by the Soil Conservation Service show that 1,191 acre-ft (1.47 hm³) of silt was deposited from March 1930 to December 1938 and an additional 1,023 acre-ft (1.26 hm³) was deposited from December 1938 to May 1953, totaling 2,214 acre-ft (2.73 hm³). Water is used for part of San Angelo municipal supply and for irrigation east of San Angelo (see station 08131600 for diversions). The capacity curve is based on a survey by the Soil Conservation Service in 1953. Data regarding the dam and lake are given in the following table:

	Gage height (feet)	Capacity (acre-feet)
Top of dam.....	43.5	
Crest of spillway (300 ft).....	39.1	27,810
Top of gates.....	33.2	13,990
Top of collapsible floodgate.....	32.2	12,390
Lowest outlet to canal (invert).....	27.5	6,370
Crest of spillway (tainter gates sill).....	15.3	435
Lowest gated outlet (invert).....	-4.0	0

Capacity table (gage height, in feet, and contents, in acre-feet)

30.0 9,170
32.0 12,070

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10520	10550	10330	10500	10530	10730	10530	10650	10570	10550	10430	10840
2	10550	10980	10340	10470	10530	10730	10530	10630	10520	10500	10500	10760
3	10580	10980	10370	10460	10530	10730	10530	10610	10400	10630	10440	10760
4	10580	10950	10410	10460	10530	10690	10650	10630	10370	10650	10370	10680
5	10580	10930	10400	10440	10520	10650	10630	10710	10440	10580	10300	10600
6	10600	10890	10370	10400	10530	10610	10600	10710	10440	10500	10260	10730
7	10600	10850	10360	10390	10550	10630	10530	10690	10440	10490	10270	10820
8	10580	10790	10330	10370	10570	10630	10490	10690	10440	10500	10270	10870
9	10580	10730	10330	10370	10580	10600	10460	10710	10430	10610	10270	10790
10	10570	10690	10330	10370	10600	10550	10440	10690	10400	10680	10300	10730
11	10550	10660	10330	10340	10580	10490	10430	10680	10390	10690	10370	10650
12	10530	10600	10360	10340	10570	10400	10410	11000	10430	10630	10440	10570
13	10490	10570	10400	10330	10550	10400	10410	10980	10490	10610	10520	10470
14	10470	10550	10400	10330	10520	10400	10390	10810	10550	10610	10600	10400
15	10580	10500	10410	10360	10500	10400	10440	10740	10600	10600	10660	10360
16	10680	10470	10430	10390	10470	10410	10430	10610	10610	10550	10680	10360
17	10600	10440	10400	10410	10520	10440	10410	10570	10600	10500	10630	10370
18	10550	10430	10430	10440	10550	10520	10400	10530	10570	10430	10630	10430
19	10470	10430	10440	10410	10570	10600	10390	10520	10580	10360	10630	10710
20	10410	10390	10490	10400	10580	10680	10340	10520	10570	10330	10630	10710
21	10360	10340	10520	10400	10570	10730	10370	10530	10520	10340	10610	10690
22	10530	10360	10550	10390	10580	10760	10390	10530	10440	10410	10580	10680
23	10550	10360	10550	10370	10600	10790	10740	10530	10400	10440	10580	10630
24	10550	10360	10600	10400	10680	10840	10730	10550	10390	10400	10580	10600
25	10570	10330	10580	10390	10610	10870	10690	10580	10430	10360	10600	10550
26	10580	10330	10550	10410	10630	10730	10680	10580	10430	10340	10630	10500
27	10580	10330	10550	10430	10660	10660	10680	10630	10390	10360	10610	10430
28	10580	10370	10520	10470	10690	10650	10690	10660	10390	10360	10600	10390
29	10600	10360	10500	10520	10710	10530	10680	10650	10430	10370	10660	10390
30	10610	10320	10500	10550	---	10550	10660	10630	10550	10390	10690	10390
31	10600	---	10520	10530	---	10520	---	10600	---	10410	10730	---
(†)	31.08	30.89	31.03	31.04	31.15	31.03	31.12	31.08	31.05	30.96	31.16	30.94†
(*)	+110	-280	+200	+10	+180	-190	+140	-60	-50	-140	+320	-340
MAX	10680	10980	10600	10550	10710	10870	10740	11000	10610	10690	10730	10870
MIN	10360	10320	10330	10330	10470	10400	10340	10520	10370	10330	10260	10360

CAL YR 1975..... * -400

WTR YR 1976..... * -100

MAX 11700

MAX 11000

MIN 9940

MIN 10260

† Gage height, in feet, at end of month.

* Change in contents, in acre-feet.

COLORADO RIVER BASIN

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08132000 Lake Nasworthy near San Angelo, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH	TEMPER- ATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	
DATE	TIME		(UNITS)							
JAN 05...	1325	1380	8.3	6.5	310	140	76	30	160	
SEP 09...	1600	950	7.6	25.0	240	79	54	25	100	
		SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SI02) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTIT- UENTS) (MG/L)
DATE										
JAN 05...	3.9	5.5	212	0	100	260	.6	19	756	
SEP 09...	2.8	6.0	193	0	68	160	.5	18	527	

COLORADO RIVER BASIN

08133500 North Concho River at Sterling City, Tex.

LOCATION (revised).--Lat 31°49'48", long 100°59'36", Sterling County, on right bank 100 ft (30 m) upstream from bridge on State Highway 163, 0.5 mile (0.8 km) south of Sterling City, 4.0 miles (6.4 km) upstream from Sterling Creek, 5.1 miles (8.2 km) downstream from Lacy Creek, and at mile 55.3 (89.0 km).

DRAINAGE AREA.--605 mi² (1,567 km²), of which 66 mi² (171 km²) is probably noncontributing.

PERIOD OF RECORD.--September 1939 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,242.36 ft (683.471 m) above mean sea level. Prior to Dec. 6, 1939, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--37 years, 9.04 ft³/s (0.256 m³/s), 6,550 acre-ft/yr (8.08 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 1,860 ft³/s (52.7 m³/s) Sept. 19 (gage height, 14.50 ft or 4.420 m); no flow for many days.
Period of record: Maximum discharge, 16,300 ft³/s (462 m³/s) July 6, 1948 (gage height, 23.70 ft or 7.224 m); no flow at times each year.
Maximum stage since at least 1891, that of July 6, 1948.

REMARKS.--Records good. Small diversions above station for irrigation.

REVISIONS (WATER YEARS).--WSP 1512: 1945, 1948. WSP 1922: Drainage area.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0		0	.12	.09	.05	.32	0		0	0
2		.03		.06	.13	.12	.04	.28	0		0	0
3		0		.04	.04	.05	.04	.25	0		0	0
4		0		.01	.02	.03	.07	.22	0		0	0
5		0		0	.02	.03	4.6	.27	0		0	0
6		0		0	.10	.01	2.3	.38	.13		0	0
7		0		0	.14	.04	.83	.32	.01		0	0
8		0		0	.12	.08	.50	.25	0		0	.45
9		0		.12	.06	.09	.36	.25	0		0	140
10		0		.03	.04	.08	.29	.22	0		0	10
11		0		.03	.04	.06	.24	.26	0		0	3.3
12		0		.16	.06	.20	.24	.23	0		0	1.4
13		0		.10	.13	.15	.32	.21	0		0	.87
14		0		.03	.12	.11	.29	.19	0		0	.62
15		0		.01	.25	.08	.24	.15	0		0	.51
16		0		.08	.23	.06	.34	.11	0		0	.43
17		0		.21	.09	.04	1.7	.08	0		0	.37
18		0		.41	.07	.05	2.0	.07	0		0	71
19		0		.31	.03	.05	.82	.07	0		0	648
20		0		.13	.03	.05	.46	.07	0		0	28
21		0		.08	.03	.03	.34	.31	0		0	13
22		0		.06	.13	.03	.39	2.2	0		0	6.9
23		0		.06	.08	.03	.28	.25	0		0	4.3
24		0		.08	.03	.03	.30	.10	0		0	3.0
25		0		.06	.01	.05	.25	.09	0		0	2.3
26		0		.03	0	.05	.20	.08	0		0	1.8
27		0		.01	0	.18	.18	.07	0		0	1.7
28		0		.02	.02	.23	.23	.04	0		0	1.4
29		0		0	.10	.09	.51	.01	0		0	1.7
30		0		0	---	.09	.42	0	0		6.1	1.3
31		---		0	---	.04	---	0	---		.77	---
TOTAL	0	.03	0	2.13	2.25	2.32	18.83	7.41	.14	0	6.87	942.35
MEAN	0	.001	0	.069	.078	.075	.63	.24	.005	0	.22	31.4
MAX	0	.03	0	.41	.26	.23	4.6	2.2	.13	0	6.1	648
MIN	0	0	0	0	0	.01	.04	0	0	0	0	0
AC-FT	0	.06	0	4.2	4.5	4.6	37	15	.3	0	14	1870

CAL YR 1975 TOTAL 332.99 MEAN .91 MAX 177 MIN 0 AC-FT 660
WTR YR 1976 TOTAL 982.33 MEAN .68 MAX 648 MIN 0 AC-FT 1950

PEAK DISCHARGE (BASE, 300 FT³/S).--Sept. 9 (0300) 468 ft³/s (8.56 ft); Sept. 19 (0330) 1,860 ft³/s (14.50 ft).

COLORADO RIVER BASIN

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08134000 North Concho River near Carlsbad, Tex.

LOCATION.--Lat 31°35'33", long 100°38'12", Tom Green County, near left bank on downstream side of bridge on county road, 0.6 mile (1.0 km) southeast of Carlsbad, 1.5 miles (2.4 km) upstream from Mule Creek, 2.5 miles (4.0 km) upstream from Grape Creek, 16.2 miles (26.1 km) upstream from O. C. Fisher Dam, and at mile 22.9 (36.8 km).

DRAINAGE AREA.--1,249 mi² (3,235 km²), of which 105 mi² (272 km²) is probably noncontributing.

PERIOD OF RECORD.--March 1924 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,968.02 ft (599.852 m) above mean sea level. Prior to Feb. 4, 1925, and Sept. 27, 1936, to Feb. 7, 1937, nonrecording gage; Feb. 4, 1925, to Sept. 26, 1936, and Feb. 8, 1937, to Nov. 6, 1955, water-stage recorder, all at site 2.5 miles (4.0 km) upstream at datum 32.76 ft (9.985 m) higher.

AVERAGE DISCHARGE.--52 years, 37.1 ft³/s (1.051 m³/s), 26,880 acre-ft/yr (33.1 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 1,180 ft³/s (33.4 m³/s) Sept. 19 (gage height, 7.57 ft or 2.307 m); no flow for many days. Period of record: Maximum discharge, 94,600 ft³/s (2,680 m³/s) Sept. 26, 1936 (gage height, 16.0 ft or 4.88 m at former site, 29.1 ft or 8.87 m at present site, from floodmarks), on basis of slope-area measurement of peak flow at former site; no flow at times. Maximum stage since 1853, that of Sept. 26, 1936. Stage not known for major flood in June 1853.

REMARKS.--Records good. Diversions by pumping above station.

REVISIONS (WATER YEARS).--WSP 1512: 1924(M), 1925, 1926(M), 1928, 1930, 1932(M), 1935, 1937-38(M), 1941(M), 1945(M), 1947-49(M). WSP 1922: Drainage area.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	2.1	2.9	2.1	1.7	1.3	2.1	.87	0	.02	0
2		8.1	2.1	2.4	2.1	1.7	1.2	1.9	.64	0	.01	0
3		6.3	2.1	2.1	2.1	1.9	1.3	1.7	.37	0	0	0
4		3.2	2.4	2.6	2.1	1.4	1.5	1.5	.30	0	0	0
5		2.1	2.6	2.6	2.1	1.7	2.1	2.8	.37	0	0	0
6		1.7	2.4	2.9	1.9	1.5	1.9	4.3	.37	0	0	0
7		1.3	2.6	2.9	1.9	1.7	2.4	2.4	.24	0	0	0
8		1.5	2.4	2.6	1.9	2.1	1.5	2.1	.19	0	0	0
9		1.5	2.6	2.6	2.1	2.6	1.3	1.9	.14	0	0	0
10		1.7	2.4	2.6	2.4	2.6	1.3	1.9	.08	0	0	0
11		1.5	2.6	2.9	2.4	2.6	1.5	1.9	.04	0	0	0
12		1.3	2.6	2.9	2.4	2.4	2.4	1.7	.03	0	0	.30
13		1.0	2.6	2.6	2.4	2.1	1.9	1.7	0	0	0	1.0
14		1.0	2.4	2.4	2.4	2.4	1.5	1.5	0	0	0	.37
15		1.2	2.1	2.9	2.6	2.4	1.9	1.3	0	0	0	.08
16		1.3	1.7	2.9	2.4	2.1	2.9	1.2	0	0	0	0
17		1.5	1.9	2.9	2.4	2.1	3.2	1.2	0	0	0	0
18		1.5	1.9	2.9	2.4	1.9	2.6	1.2	0	0	0	0
19		1.5	1.9	2.6	2.4	1.9	1.9	1.0	0	0	0	301
20		1.3	2.1	2.6	2.6	1.9	1.7	.87	0	9.8	0	132
21		1.3	2.1	2.6	2.6	1.7	1.5	1.0	0	5.2	0	36
22		1.3	2.4	2.6	2.4	1.7	1.5	1.6	0	3.5	0	20
23		1.3	2.6	2.6	2.1	1.5	1.7	2.6	0	2.6	0	12
24		1.7	3.2	2.6	1.7	1.7	1.7	2.6	0	1.9	0	7.6
25		1.7	3.2	2.9	1.5	1.8	1.7	2.0	0	1.2	0	5.6
26		1.7	2.9	2.1	1.0	1.5	1.3	1.7	0	1.9	0	4.8
27		1.9	2.6	2.1	1.3	1.3	1.9	1.5	0	1.5	0	3.5
28		2.4	2.4	1.9	1.5	1.2	2.1	1.3	0	.75	0	3.5
29		2.1	2.4	2.1	1.7	1.3	4.4	1.2	0	.30	0	3.2
30		2.4	2.4	2.1	---	1.3	2.4	.87	0	.10	0	2.6
31		---	2.6	2.4	---	1.3	---	.87	---	.06	0	---
TOTAL	0	58.3	74.3	79.8	61.1	57.5	56.8	76.81	3.63	28.81	.03	533.55
MEAN	0	1.94	2.40	2.57	2.10	1.85	1.89	2.48	.12	.93	.001	17.8
MAX	0	8.1	3.2	2.9	2.6	2.6	4.4	16	.87	9.8	.02	301
MIN	0	0	1.7	1.9	1.0	1.2	1.2	.87	0	0	0	0
AC-FT	0	116	147	158	121	114	113	152	7.2	57	.06	1060

CAL YR 1975 TOTAL 1480.60 MEAN 4.06 MAX 369 MIN 0 AC-FT 2940
WTR YR 1976 TOTAL 1030.53 MEAN 2.92 MAX 301 MIN 0 AC-FT 2040

PEAK DISCHARGE (BASE, 1,500 FT³/S).--No peak above base.

COLORADO RIVER BASIN

08134500 O. C. Fisher Lake at San Angelo, Tex.

LOCATION.--Lat 31°29'04", long 100°28'53", Tom Green County, in intake structure of San Angelo Dam on North Concho River, 3.1 mile (5.0 km) northwest of San Angelo, and at mile 6.6 (10.6 km).

DRAINAGE AREA.--1,488 mi² (3,854 km²), of which 105 mi² (272 km²) is probably noncontributing.

PERIOD OF RECORD.--Contents: February 1952 to current year. Published as San Angelo Reservoir prior to October 1970, and as San Angelo Lake, October 1970 to September 1974.

Water quality: Chemical analyses: October 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level. Prior to May 12, 1953, nonrecording gage at same site and datum.

EXTREMES.--Current year: Maximum contents, 37,050 acre-ft (45.7 hm³) Oct. 1 (elevation, 1,886.33 ft or 574.953 m); minimum, 28,940 acre-ft (35.7 hm³) Sept. 17, 18 (elevation, 1,882.71 ft or 573.850 m).

Period of record: Maximum contents, 174,100 acre-ft (215 hm³) Oct. 14, 1957 (elevation, 1,916.47 ft or 584.140 m); minimum since first appreciable storage, lake dry July 16, 1970, to Apr. 15, 1971.

REMARKS.--The lake is formed by a rolled earthfill dam 40,885 ft (12,462 m) long, including spillway. Closure was completed Mar. 7, 1951, and the dam was completed May 3, 1951. Deliberate impoundment began Feb. 1, 1952. The lake is operated for flood control and recreation with part as municipal supply for the city of San Angelo. The spillway is an uncontrolled off-channel concrete gravity dam with ogee weir section 1,150 ft (351 m) wide located to the right and upstream from the right end of dam. The spillway is designed to discharge 356,000 ft³/s (10,100 m³/s) at maximum design flood level. The service control outlet works consist of six gate-controlled outlets, 7.5 by 14.5 ft (2.3 by 4.4 m), opening into two 18.0-foot-diameter (5.5-meter) concrete conduits and two 2.5-foot (0.8-meter) gate-controlled outlets for water-supply outlets. Since February 1973, the capacity is based on a survey made in 1962. Prior to 1973, the capacity was based on a survey made in 1944. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	1,964.0	-
Design flood.....	1,958.0	690,000
Crest of spillway.....	1,938.5	392,700
Top of conservation pool.....	1,908.0	115,700
Lowest gated outlet (invert).....	1,840.0	0

COOPERATION.--Records furnished by Corps of Engineers and reviewed by Geological Survey.

REVISIONS.--WSP 1922: Drainage area.

Capacity table (elevation, in feet, and contents, in acre-feet)

1,882.0	27,480	1,885.0	33,940
1,883.0	29,560	1,886.0	36,260
1,884.0	31,710	1,887.0	38,680

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36930	36020	35460	34970	34490	33890	32950	32440	32130	30600	30750	29410
2	36830	36500	35440	34970	34370	33870	32930	32790	32060	30510	30690	29390
3	36780	36500	35410	34950	34350	33870	32860	32730	32040	30770	30640	29390
4	36690	36450	35410	34930	34330	33850	33040	32640	31970	30750	30620	29340
5	36620	36430	35390	34930	34330	33760	33060	32750	31930	30730	30560	29300
6	36540	36400	35370	34930	34280	33710	33060	32700	31860	30670	30510	29320
7	36470	36350	35340	34860	34260	33740	33040	32650	31970	30600	30430	29300
8	36380	36320	35320	34860	34260	33710	32990	32640	31930	30540	30390	29320
9	36350	36310	35300	34790	34260	33690	32970	32640	31860	30600	30320	29280
10	36330	36280	35320	34790	34240	33670	32950	32610	31820	30640	30280	29220
11	36310	36210	35270	34790	34240	33650	33060	32590	31770	30690	30210	29170
12	36260	36140	35250	34790	34240	33600	33040	32750	31710	30640	30150	29130
13	36210	36090	35250	34760	34240	33560	33020	32730	31640	30630	30060	29110
14	36170	36050	35270	34760	34240	33560	32990	32680	31580	30770	30020	29050
15	36380	36020	35210	34760	34240	33530	33110	32540	31530	30820	29940	29030
16	36400	36000	35210	34760	34240	33450	33040	32590	31470	30820	29870	28990
17	36380	35980	35160	34740	34280	33440	33060	32550	31420	30950	29830	28940
18	36330	35950	35090	34740	34240	33420	33020	32500	31400	31010	29810	28960
19	36310	35950	35090	34720	34210	33400	33020	32460	31340	30970	29770	29090
20	36260	35910	35040	34700	34190	33350	32900	32410	31270	30900	29700	29600
21	36210	35860	35020	34700	34120	33310	32860	32570	31210	30860	29640	29640
22	36350	35740	35000	34670	34080	33280	32840	32590	31140	30950	29600	29640
23	36310	35740	35000	34670	34050	33280	32880	32550	31050	31030	29490	29640
24	36240	35720	35160	34670	34010	33260	32860	32550	30990	31010	29470	29620
25	36190	35720	35090	34650	33990	33260	32790	32500	30950	31050	29450	29600
26	36170	35620	35090	34600	33940	33220	32770	32440	30880	31010	29390	29550
27	36170	35600	35040	34600	33920	33200	32810	32390	30860	30990	29320	29510
28	36120	35600	35020	34560	33920	33170	32810	32350	30790	30950	29280	29450
29	36120	35600	35020	34560	33920	33110	32880	32280	30750	30900	29360	29430
30	36070	35530	35020	34560	---	33040	32860	32260	30690	30840	29340	29390
31	36020	---	35000	34530	---	32990	---	32190	---	30790	29300	---
(†)	1885.90	1885.69	1885.46	1885.26	1884.98	1884.58	1884.52	1884.22	1883.53	1883.58	1882.88	1882.92
(#)	-1030	-490	-530	-470	-640	-900	-130	-670	-1500	+100	-1490	+90
MAX	36930	36500	35460	34970	34490	33890	33110	32840	32130	31050	30750	29640
MIN	36020	35530	35000	34530	33890	32990	32770	32190	30690	30510	29280	28940
CAL YR 1975.....	+ -12530			MAX 47740			MIN 35000					
WTR YR 1976.....	+ -7660			MAX 36930			MIN 28940					

† Elevation, in feet, at end of month.

Change in contents, in acre-feet.

COLORADO RIVER BASIN

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08134500 O. C. Fisher Lake at San Angelo, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG)	DISSOLVED SODIUM (NA) (MG/L)
MAR 22...	0940	485	7.8	14.0	190	33	52	14	20
DATE		SODIUM ADSORPTION RATIO	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
MAR 22...	.6	12	188		28	42	.3	4.1	265

COLORADO RIVER BASIN

08135000 North Concho River at San Angelo, Tex.

LOCATION.--Lat 31°27'57", long 100°26'51", Tom Green County, near left bank on downstream side of pier of Sixth Street Bridge in San Angelo, 3.2 miles (5.1 km) upstream from confluence with South Concho River, and 3.4 miles (5.5 km) downstream from O. C. Fisher Dam.

DRAINAGE AREA.--1,507 mi² (3,903 km²), of which 105 mi² (272 km²) is probably noncontributing.

PERIOD OF RECORD.--October 1915 to June 1928, February 1929 to September 1931, July 1947 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,813.42 ft (552.730 m) above mean sea level. Prior to Sept. 1, 1920, nonrecording gage, and Sept. 1, 1920, to Feb. 11, 1929, water-stage recorder at site 1.6 miles (2.6 km) downstream at datum 11.02 ft (3.359 m) lower. Feb. 12, 1929, to Sept. 30, 1931, water-stage recorder at site 1.6 miles (2.6 km) downstream at datum 13.02 ft (3.968 m) lower.

AVERAGE DISCHARGE.--17 years (1916-27, 1929-31, 1947-51) prior to completion of O. C. Fisher Dam, 54.5 ft³/s (1.543 m³/s), 39,490 acre-ft/yr (48.7 hm³/yr); 25 years (1951-76) regulated, 9.54 ft³/s (0.270 m³/s), 6,910 acre-ft/yr (8.52 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 1,040 ft³/s (29.5 m³/s) Apr. 11 (gage height, 3.27 ft or 0.997 m); minimum, 0.05 ft³/s (0.001 m³/s) July 2, 3.

Period of record: Maximum discharge, about 47,000 ft³/s (1,330 m³/s) June 13, 1930 (gage height, 22.52 ft or 6.864 m, site and datum then in use); no flow at times.

Flood of Sept. 17, 1936, reached a stage of 34.6 ft (10.55 m), from floodmarks (discharge, 184,000 ft³/s or 5,210 m³/s by slope-area measurement).

The flood in 1936 was the greatest since flood in June 1853 (stage unknown).

REMARKS.--Records good. Since October 1951, flow regulated by O. C. Fisher Lake (station 08134500).

REVISIONS (WATER YEARS).--WSP 568: 1916, 1918-22. WSP 1512: 1916(M), 1917-18, 1919-21(M). WSP 1922: Drainage area.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.17	1.3	.70	.86	.76	.81	.34	1.1	.57	.11	.93	6.7
2	.13	.64	.69	.86	.85	.72	.36	1.0	.57	.07	.93	1.8
3	.13	3.3	.75	.82	.76	.51	.46	.97	.52	14	.89	1.8
4	.17	1.4	.72	.81	.61	.51	3.4	.93	.41	5.9	.81	.86
5	.15	1.2	.81	.86	.59	.43	4.1	3.9	.54	1.1	.77	.62
6	.19	1.1	.73	.82	.68	.47	1.4	1.8	.47	.62	.79	.62
7	.18	1.1	.70	.73	.73	.60	1.1	1.1	4.6	.52	.83	.65
8	.14	1.0	.88	.76	.72	1.0	1.0	.94	2.9	.47	.67	2.3
9	.12	1.2	.84	.82	.81	.86	.70	1.1	1.1	3.2	.70	2.0
10	.11	1.1	.89	.83	.71	.75	.55	1.1	.67	6.8	.66	1.3
11	.10	1.1	.85	.88	.63	.67	38	.98	.51	7.0	.53	.80
12	.20	.95	.88	.93	.65	.69	19	13	.49	2.8	.39	.56
13	.19	.87	.95	.78	.69	.59	1.9	16	.42	3.5	.34	.79
14	.19	1.1	.86	.75	.70	.64	2.1	1.6	.44	13	.36	.66
15	4.3	1.2	.89	.77	.70	.70	5.5	1.2	.40	11	.34	.56
16	.15	1.2	.81	.78	.75	.58	5.1	1.2	.32	2.4	.39	.50
17	1.0	1.1	1.0	.78	1.3	.62	4.7	1.1	.28	3.0	.46	.50
18	.41	1.1	1.1	.79	.77	1.3	1.5	1.2	.26	8.0	.44	.59
19	.29	1.4	1.2	.82	.63	1.7	1.1	1.1	.22	2.2	.32	19
20	.24	.88	1.3	.71	.60	1.4	.98	1.0	.23	1.3	.25	2.6
21	.23	.93	1.2	.76	.50	.58	.94	9.0	.31	1.1	.28	1.2
22	4.9	.91	1.3	.70	.51	.56	.93	18	.32	2.5	.29	1.1
23	2.7	.91	1.2	.75	.59	.53	15	1.5	.23	7.8	.32	.93
24	.61	1.0	3.7	.73	.65	.55	1.9	1.1	.17	7.4	.34	.93
25	.40	.92	1.7	.80	.58	.57	1.1	1.2	.14	4.9	.68	.93
26	.43	.83	.97	.80	.59	.55	1.1	1.0	.14	5.3	.52	.93
27	.45	.83	.92	.82	.60	.48	5.5	.72	.13	1.7	.28	.80
28	.50	.93	.90	.81	.66	.52	5.6	.69	.12	1.4	.28	.80
29	.81	.93	.93	.81	.76	.59	5.7	.65	.15	1.2	.80	.93
30	.81	.83	.95	.82	---	.55	1.5	.64	.13	1.1	1.7	.93
31	1.1	---	.94	.78	---	.39	---	.62	---	1.0	.74	---
TOTAL	78.35	96.62	32.26	24.74	20.08	21.33	132.56	87.44	17.76	122.39	18.03	54.69
MEAN	1.24	3.22	1.04	.80	.69	.69	4.42	2.82	.59	3.95	.58	1.82
MAX	15	64	3.7	.93	1.3	1.7	38	18	4.6	14	1.7	19
MIN	.10	.83	.69	.70	.50	.39	.34	.62	.12	.07	.25	.50
AC-FT	76	192	64	49	40	42	263	173	35	243	36	108

CAL YR 1975 TOTAL 749.85 MEAN 2.05 MAX 144 MIN .02 AC-FT 1490
WTR YR 1976 TOTAL 666.25 MEAN 1.82 MAX 64 MIN .07 AC-FT 1320

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LOCATION.--Lat 31°27'16", long 100°24'37", Tom Green County, on left bank 0.4 mile (0.6 km) downstream from confluence of North and South Concho Rivers, 1.8 miles (2.9 km) southeast of Tom Green County Courthouse, and at mile 60.9 (98.0 km).

PERIOD OF RECORD.--September 1915 to current year. Prior to October 1969, published as "near San Angelo".

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,776.79 ft (541.566 m) above mean sea level. Prior to Aug. 11, 1917, nonrecording gage at same site and datum. Aug. 11, 1917, to May 15, 1963, water-stage recorder on right bank to same datum.

AVERAGE DISCHARGE.--47 years (1915-62) prior to construction of Twin Buttes Dam, 158 ft³/s (4.475 m³/s), 114,500 acre-ft/yr (141 hm³/yr); 14 years (1962-76) regulated, 17.8 ft³/s (0.504 m³/s), 12,900 acre-ft/yr (15.9 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 1,580 ft³/s (44.7 m³/s) Apr. 11 (gage height, 5.29 ft or 1.612 m); minimum, 0.11 ft³/s (0.003 m³/s) Oct. 12, 13.

Period of record: Maximum discharge, 230,000 ft³/s (6,510 m³/s) Sept. 17, 1936 (gage height, 46.6 ft or 14.20 m, from floodmarks), from rating curve extended above 105,000 ft³/s (2,970 m³/s) on basis of slope-area measurements of 167,000 and 230,000 ft³/s (4,730 and 6,510 m³/s); no flow at times in 1921, 1952-53, 1965, 1971.

REMARKS.--Records good. Many diversions upstream from station for irrigation, industrial, and municipal supply. Records furnished by the city of San Angelo show that they diverted 12,280 acre-ft (15.1 hm³) during year. No water was diverted from E. V. Spence Reservoir during the year. All of the sewage effluent is used for irrigation about 6 miles (10 km) downstream from gage, and none is returned directly to the river. Flow is regulated by Twin Buttes Reservoir (station 08131200) on the South Concho River and by O. C. Fisher Lake (station 08134500) on the North Concho River.

REVISIONS (WATER YEARS).--WSP 568: 1915-16, 1919-22. WSP 1148: 1916-22(M), 1924(M), 1925-26, 1929(M), 1930-32, 1935-37. WSP 1512: 1917-18. WSP 1712: 1936. WSP 1922: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	26	21	19	24	17	18	34	12	33	17	66
2	32	25.5	19	17	20	19	16	32	12	24	15	57
3	32	7	19	18	15	19	18	30	11	43	15	43
4	32	36	20	19	19	18	29	29	9.5	99	15	42
5	32	33	22	18	15	15	57	44	11	48	17	37
6	31	34	21	18	18	20	37	40	13	32	15	34
7	32	28	20	18	21	25	31	34	12	21	16	40
8	29	26	20	18	23	30	25	31	16	15	16	43
9	18	27	20	18	20	29	25	32	11	26	15	41
10	14	27	20	19	20	24	22	33	7.4	49	15	38
11	12	20	20	17	23	23	118	29	4.3	57	15	37
12	4.7	21	19	16	24	23	118	76	2.9	48	16	35
13	7.4	21	19	16	22	20	35	150	2.3	43	20	34
14	4.9	22	19	16	23	24	25	61	2.1	64	23	32
15	19	22	16	15	25	23	33	52	1.7	104	25	29
16	58	21	16	15	23	21	55	78	1.2	54	28	21
17	41	22	16	15	31	23	38	61	2.3	43	28	17
18	25	20	18	15	31	21	33	69	3.2	52	32	16
19	23	23	19	17	26	20	28	53	6.1	48	32	107
20	22	24	18	17	25	17	22	45	12	36	22	55
21	24	24	17	17	25	16	20	42	8.8	30	19	34
22	40	23	17	18	24	18	21	77	8.4	28	21	27
23	-6	22	17	25	14	20	41	41	12	51	24	25
24	74	22	27	27	3.1	22	43	26	11	57	24	23
25	24	22	31	28	13	23	24	25	14	50	31	21
26	27	21	25	30	17	18	24	27	33	50	34	21
27	31	2	22	34	18	17	33	23	52	36	22	21
28	25	21	22	32	17	20	50	19	53	30	21	21
29	23	22	21	28	19	19	52	16	50	27	26	21
30	23	21	20	24	---	16	39	16	38	25	42	21
31	24	---	21	24	---	19	---	14	---	21	35	---
TOTAL	879.88	999	621	628	615.1	645	1143	1339	433.9	1393	700	1059
MEAN	28.4	33.3	20.0	20.3	20.4	20.8	39.4	43.2	14.5	44.9	22.6	35.3
MAX	44	255	31	34	31	30	118	150	53	104	42	107
MIN	4.94	27	16	15	3.1	16	16	14	1.1	15	15	16
AC-FT	1740	1980	1230	1250	1200	1280	2350	2660	861	2760	1390	2100
CAL YR 1975	TOTAL	36256.68	MEAN	99.3	MAX	2830	MIN	.94	AC-FT	71920		
WY YR 1975	TOTAL	10485.68	MEAN	24.6	MAX	255	MIN	.94	AC-FT	20800		

COLORADO RIVER BASIN

08136150 Concho River near Veribest, Tex.
(Low-flow partial-record station)

LOCATION.--Lat 31°32'07", long 100°13'05", Tom Green County, at bridge on county road, 2.8 miles (4.5 km) downstream from Crownest Creek, 4.5 miles (7.2 km) northeast of Veribest, and 17.3 miles (27.8 km) downstream from gaging station near San Angelo.

PERIOD OF RECORD.--Periodic discharge measurements: April 1970 to April 1974. Periodic water-quality data: February 1968 to current year.

DISCHARGE AND WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	RIO-CHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	HARDNESS (CA+MG) (MG/L)
OCT. 07...	1000	45	1860	8.0	19.0	8.9	95	2.6	490
DEC. 16...	0815	31	2190	8.0	12.0	9.9	92	1.9	670
FEB. 24...	0845	36	2310	8.1	11.0	10.1	92	2.2	620
APR. 06...	1215	62	2410	7.7	18.5	8.2	87	3.7	630
JUNE 07...	1700	16	2220	7.9	27.0	9.5	122	5.8	580
AUG. 03...	1445	27	1790	7.8	30.0	10.4	139	4.8	450
DATE	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)
OCT. 07...	280	110	53	190	3.7	5.0	264	0	160
DEC. 16...	410	160	66	220	3.7	4.6	318	0	190
FEB. 24...	370	150	60	240	4.2	4.8	312	0	190
APR. 06...	370	140	67	260	4.5	4.6	314	0	230
JUNE 07...	390	120	69	240	4.3	5.0	232	0	210
AUG. 03...	260	98	50	200	4.1	5.0	235	0	160
DATE	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SiO2) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)
OCT. 07...	360	--	20	1030	3.2	.03	.08	.84	.06
DEC. 16...	440	.7	21	1260	2.5	.02	.03	.46	.06
FEB. 24...	450	.6	17	1270	4.5	.04	.08	.68	.07
APR. 06...	530	.7	19	1410	3.4	.05	.09	1.0	.03
JUNE 07...	470	.7	25	1250	2.4	.13	.06	1.4	.08
AUG. 03...	360	.6	23	1010	1.1	.04	.01	1.4	.04

COLORADO RIVER BASIN

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08136500 Concho River at Paint Rock, Tex.

LOCATION.--Lat 31°30'57", long 99°55'09", Concho County, near left bank on downstream end of pier of bridge on U.S. Highway 83, 0.5 mile (0.8 km) north of Concho County Courthouse in Paint Rock, 2.7 miles (4.3 km) downstream from Kickapoo Creek, and at mile 19.6 (31.5 km).

DRAINAGE AREA.--6,415 mi² (16,615 km²), of which 1,283 mi² (3,323 km²) is probably noncontributing.

PERIOD OF RECORD.--Discharge: September 1915 to current year. Prior to October 1970, published as "near Paint Rock".
Water quality: Chemical and biochemical analyses: October 1967 to current year. Pesticide analyses: October 1967 to current year. Water temperatures: October 1967 to current year.

GAGE.--Water-stage recorder with masonry dam control. Datum of gage is 1,574.36 ft (479.865 m) above mean sea level. See WSP 1922 for history of changes prior to Jan. 15, 1946.

AVERAGE DISCHARGE.--47 years (1915-62) prior to construction of Twin Buttes Dam, 210 ft³/s (5.947 m³/s), 152,100 acre-ft/yr (188 hm³/yr); 14 years (1962-76) regulated, 46.3 ft³/s (1.311 m³/s), 33,540 acre-ft/yr (41.4 hm³/yr).

EXTREMES.--Discharge: Current year: Maximum discharge, 1,240 ft³/s (35.1 m³/s) July 11 (gage height, 14.22 ft or 4.334 m); minimum, 0.39 ft³/s (0.011 m³/s) June 27-29.

Period of record: Maximum discharge, 301,000 ft³/s (8,520 m³/s) Sept. 17, 1936 (gage height, 43.4 ft or 13.23 m, from floodmarks), from rating curve extended above 98,000 ft³/s (2,780 m³/s) on basis of slope-area measurements of 144,000 and 301,000 ft³/s (4,080 and 8,520 m³/s); no flow at times.

Historic: Maximum stage since at least 1853, that of Sept. 17, 1936. Flood in August 1882 reached a stage of about 39.9 ft (12.16 m), and flood in August 1906 reached a stage of 39.5 ft (12.04 m), from information by local resident.

Water quality: Current year: Maximum daily specific conductance, 2,560 micromhos Apr. 7; minimum daily, 804 micromhos July 27.

Maximum water temperatures, 32.0°C Aug. 6; minimum, 1.0°C Dec. 1.

Period of record: Maximum daily specific conductance, 3,110 micromhos Apr. 20, 24, 25, 1974; minimum daily, 360 micromhos Nov. 1, 1974. Maximum water temperatures (1967-73, 1975-76), 35.0°C Aug. 11, 1969; minimum, freezing point on many days during winter months.

REMARKS.--Discharge records good above 10 ft³/s (0.28 m³/s) and fair below. Many diversions above station for irrigation and municipal supply. Regulation same as that for Concho River at San Angelo (station 08136000).

REVISIONS (WATER YEARS).--WSP 458: 1915-16. WSP 568: 1919-20. WSP 1712: 1922(M). WSP 1732: 1918(M), 1923(M). WSP 1922: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54	61	54	63	54	22	14	91	22	23	51	89
2	37	262	54	61	54	25	15	71	22	18	49	92
3	54	563	60	61	57	22	15	63	21	15	44	105
4	51	228	61	59	54	17	16	59	18	322	41	92
5	52	124	61	59	45	18	20	64	18	397	42	81
6	51	85	59	61	41	18	66	64	20	144	42	76
7	54	77	58	59	44	18	79	69	23	85	39	70
8	54	76	60	58	46	29	56	66	54	62	35	69
9	55	71	59	58	47	36	47	59	29	58	36	76
10	54	69	58	58	46	39	39	57	21	55	34	79
11	49	68	59	60	42	36	36	57	19	369	33	77
12	17	67	59	61	39	32	121	58	16	377	31	74
13	33	64	59	57	39	29	256	61	13	147	31	68
14	29	61	60	57	41	29	99	145	13	106	30	64
15	27	59	54	56	39	35	63	111	14	103	30	63
16	33	61	56	55	43	35	66	86	11	171	35	57
17	50	63	51	57	45	32	71	71	7.9	211	43	56
18	111	63	56	57	41	31	81	85	7.3	146	40	52
19	79	64	57	58	45	31	66	61	12	106	42	52
20	65	60	56	58	37	31	60	53	10	99	43	99
21	59	61	54	54	31	24	52	47	6.4	88	38	182
22	65	63	60	55	34	27	48	43	4.5	76	36	108
23	144	61	56	58	36	23	62	49	2.9	75	37	83
24	100	64	60	54	32	24	67	73	1.7	71	34	74
25	92	63	65	54	29	27	110	60	1.3	210	39	68
26	72	60	72	62	23	26	74	46	1.3	253	40	64
27	64	61	74	63	17	23	58	33	.93	99	42	65
28	42	62	74	70	13	24	57	31	.59	84	52	61
29	65	63	67	72	12	21	70	31	.45	68	51	61
30	63	61	66	70	---	20	92	26	23	57	72	61
31	60	---	66	66	---	17	---	23	---	51	74	---
TOTAL	1921	2447	1882	1861	1135	825	1976	1913	414.32	4146	1286	2314
MEAN	62.0	75.6	60.7	60.0	39.1	26.6	65.9	61.7	13.2	134	41.5	77.3
MAX	148	563	79	72	54	39	256	145	54	397	74	182
MIN	27	59	50	54	12	17	14	23	.45	15	30	52
AC-FT	3810	5690	3730	3690	2250	1640	3920	3790	822	8220	2550	4600
CAL YR 1975	TOTAL	63747.60	MEAN	175	MAX	5630	MIN	25	AC-FT	126500		
WTR YR 1976	TOTAL	22544.32	MEAN	61.6	MAX	563	MIN	.45	AC-FT	44720		

COLORADO RIVER BASIN

08136500 Concho River at Paint Rock, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)	HARD- NESS (CA, MG) (MG/L)
OCT. 07...	1200	53	2060	7.9	20.0	0	30	9.5	103	2.3	620
NOV. 30...	1600	64	2180	8.1	14.0	--	--	--	--	--	640
DEC. 16...	0914	60	2280	7.9	12.0	0	20	10.0	93	2.1	770
JAN. 31...	1630	64	2370	7.8	7.0	--	--	--	--	--	720
FEB. 24...	1015	40	2440	8.1	12.0	0	15	11.0	102	1.7	780
MAR. 22...	1225	26	2520	7.5	18.0	--	--	--	--	--	760
APR. 06...	1105	76	2550	8.0	19.0	0	35	9.6	91	3.1	770
MAY 07...	1000	69	1970	7.5	19.5	--	--	--	--	--	540
JUNE 09...	0950	56	2080	7.6	25.0	5	25	5.5	68	4.2	590
JULY 31...	1800	55	1740	7.6	27.0	--	--	--	--	--	470
AUG. 03...	1330	44	1790	7.8	30.0	10	40	8.8	117	3.9	470
SEP. 30...	1800	60	1900	8.0	24.0	--	--	--	--	--	560

DATE	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)
OCT. 07...	430	140	64	190	3.3	4.8	231	0	230	410	--
NOV. 30...	460	140	71	200	3.4	4.4	224	0	240	420	.6
DEC. 16...	550	170	85	200	3.1	4.4	276	0	250	480	.6
JAN. 31...	500	160	77	230	3.7	4.4	262	0	260	490	.9
FEB. 24...	570	180	79	220	3.4	4.5	258	0	260	570	.7
MAR. 22...	590	160	88	230	3.6	4.4	204	0	330	530	.7
APR. 06...	600	160	89	240	3.8	4.5	207	0	340	560	.6
MAY 07...	400	110	65	200	3.7	4.4	178	0	230	440	.6
JUNE 08...	440	120	71	210	3.8	4.6	188	0	240	420	.6
JULY 31...	320	99	53	170	3.4	6.5	180	0	180	360	.6
AUG. 03...	310	94	56	180	3.6	5.5	196	0	190	380	.6
SEP. 30...	400	120	64	180	3.3	4.9	200	0	210	390	.5

COLORADO RIVER BASIN

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08136500 Concho River at Paint Rock, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED SILICA (SIO ₂) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NON- FILT- RABLE RESIDUE (MG/L)	VOL. NON- FILT- RABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
OCT. 07...	21	1180	56	22	6.5	.04	.07	.69	.06	5.2
NOV. 30...	20	1210	--	--	--	--	--	--	--	--
DEC. 16...	20	1350	27	8	10	.02	.02	.41	.04	5.6
JAN. 31...	17	1370	--	--	--	--	--	--	--	--
FEB. 24...	17	1460	30	5	11	.05	.06	.43	.03	3.0
MAR. 22...	16	1460	--	--	--	--	--	--	--	--
APR. 06...	15	1510	60	18	6.6	.10	.07	.83	.04	4.8
MAY 07...	17	1150	--	--	--	--	--	--	--	--
JUNE 08...	25	1190	49	18	1.6	.10	.12	1.2	.07	8.2
JULY 31...	20	978	--	--	--	--	--	--	--	--
AUG. 03...	22	1030	111	21	1.6	.06	.05	2.1	.07	7.8
SEP. 30...	21	1090	--	--	--	--	--	--	--	--

DATE	TIME	DIS- SOLVED ALUM- INUM (AL) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)
OCT. 07...	1200	10	3	320	0	0	0	0
FEB. 24...	1015	10	2	400	2	0	0	0
JUNE 08...	0950	20	5	350	0	0	0	2
AUG. 03...	1330	10	6	--	0	0	0	0

DATE	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)
OCT. 07...	10	0	50	0	.0	3	2500	10
FEB. 24...	0	0	60	0	.1	0	3000	10
JUNE 08...	40	0	50	10	.1	0	2500	0
AUG. 03...	0	0	50	0	.1	0	2100	20

COLORADO RIVER BASIN

08136500 Concho River at Paint Rock, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL PCB (UG/L)	PCB IN BOTTOM MA- TERIAL (UG/KG)	POLY- CHLO- RINATED NAPH- THA- LENES (UG/L)	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL CHLOR- DANE (UG/L)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDD (UG/L)	DDD IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDE (UG/L)	DDE IN BOTTOM MA- TERIAL (UG/KG)
OCT. 07...	1200	.0	0	--	.00	.0	.0	0	.00	.5	.00	12
FEB. 24...	1015	.0	0	.00	.00	.0	.0	0	.00	.0	.00	2.9
JUNE 08...	0950	.0	0	.00	.00	.0	.0	0	.00	.0	.00	9.8
AUG. 03...	1330	.0	0	.00	.00	.0	.0	0	.00	.1	.00	6.1

DATE	TOTAL DDT (UG/L)	DDT IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	DI- ELDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ETHION (UG/L)	TOTAL HEPTA- CHLOR (UG/L)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG)
OCT. 07...	.00	.0	.00	.00	.0	.00	.0	.00	.00	.0	.00	.0
FEB. 24...	.00	.0	.00	.00	.0	.00	.0	.00	.00	.0	.00	.0
JUNE 08...	.00	.0	.01	.00	.0	.00	.0	.00	.00	.0	.00	.0
AUG. 03...	.00	.0	.01	.00	.0	.00	.0	.00	.00	.0	.00	.0

DATE	TOTAL LINDANE (UG/L)	LINDANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL TOX- APHENE (UG/L)	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
OCT. 07...	.00	.0	.00	.00	.00	.00	0	0	.00	.00	.00	.00
FEB. 24...	.00	.0	.00	.00	.00	.00	0	0	.00	.00	.00	.00
JUNE 08...	.00	.0	.00	.00	.00	.00	0	0	.00	.01	.08	.00
AUG. 03...	.00	.0	.00	.00	.00	.00	0	0	.00	.00	.05	.00

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

MONTH	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA+MG) (MG/L)
OCT. 1975.....	1921	2050	1180	6130	420	2180	220	1160	590
NOV. 1975.....	2867	1740	1000	7730	350	2700	190	1460	460
DEC. 1975.....	1882	2290	1320	6730	470	2400	250	1270	690
JAN. 1976.....	1861	2350	1360	6850	490	2450	260	1300	720
FEB. 1976.....	1123	2370	1380	4170	490	1490	260	802	730
MAR. 1976.....	825	2500	1460	3250	520	1100	310	696	790
APR. 1976.....	1976	2140	1230	6590	440	2330	250	1310	630
MAY 1976.....	1913	1970	1130	5840	400	2070	210	1100	560
JUNE 1976.....	414.32	2150	1240	1390	440	495	240	264	640
JULY 1976.....	4146	1230	710	7950	240	2660	130	1450	340
AUG. 1976.....	1286	2070	1190	4140	420	1470	230	784	600
SEPT 1976.....	2318	2000	1150	7170	410	2550	220	1360	570
TOTAL	22532.31	**	**	67900	**	24000	**	13000	**
WTD.AVG.	61.73	1940	1100	**	390	**	210	**	540

COLORADO RIVER BASIN

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08136500 Concho River at Paint Rock, Tex.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C): WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2050	1490	2200	2280	2310	2430	2540	1930	2040	2400	1760	2140
2	2020	1480	2230	2310	2320	2450	2540	1930	2040	2380	1790	2130
3	2050	1480	2230	2310	2320	2450	2550	1930	2050	2300	1790	2110
4	2090	1480	2210	2260	2320	2420	2550	1930	2050	890	1820	2100
5	2050	1480	2220	2310	2340	2520	2550	1940	2050	850	1840	2080
6	2050	1710	2240	2330	2360	2520	2550	1960	2050	925	1840	2060
7	2060	1720	2240	2290	2370	2470	2560	1970	2070	1000	1980	2060
8	2130	1720	2260	2280	2340	2480	2530	1960	2080	1060	1960	2050
9	2050	1790	2280	2270	2350	2500	2520	1970	2090	1100	1960	2000
10	2170	1720	2260	2330	2350	2520	2520	1970	2150	1140	1970	1970
11	2090	1720	2250	2360	2360	2500	2510	1970	2190	1160	2040	2010
12	2060	1790	2260	2330	2350	2510	2250	1990	2250	1200	2030	1990
13	2100	1780	2300	2330	2330	2510	2250	2000	2240	1300	2050	1990
14	2070	1800	2290	2360	2380	2460	2550	2000	2230	1380	2080	2000
15	2110	1930	2280	2360	2370	2470	2060	2000	2130	1420	2100	2020
16	2180	1930	2280	2370	2370	2480	2060	1990	2200	1500	2120	1980
17	2180	1930	2280	2370	2370	2510	2060	1980	2250	1680	2140	1960
18	2180	1930	2300	2370	2370	2470	1880	1970	2350	1700	2170	1980
19	2150	1930	2300	2340	2440	2540	1880	1970	2320	1710	2190	1980
20	2160	1990	2300	2310	2440	2530	1860	1970	2340	1720	2200	1960
21	2140	1990	2300	2360	2440	2530	1840	1970	2320	1750	2220	1940
22	2180	2060	2330	2360	2430	2520	1820	1960	2320	1760	2230	1930
23	2190	2060	2300	2400	2420	2530	1800	1960	2350	1770	2250	1910
24	2140	2060	2300	2390	2440	2510	1780	1960	2350	1760	2280	1910
25	2030	2130	2290	2410	2440	2520	1890	1960	2350	1000	2240	1920
26	1960	2130	2320	2390	2420	2540	1890	1960	2370	889	2220	1920
27	1720	2190	2340	2390	2450	2550	1890	1960	2350	804	2200	1920
28	1890	2190	2340	2390	2450	2550	1940	1940	2350	950	2180	1920
29	1890	2200	2360	2420	2450	2550	1960	1990	2390	1020	2160	1920
30	1890	2230	2360	2420	---	2550	1950	1970	2410	1410	2150	1910
31	1360	---	2370	2400	---	2550	---	1990	---	1740	2150	---
MONTH	2040	1870	2280	2350	2380	2500	2180	1970	2220	1410	2070	1990

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.0	18.0	1.0	7.0	10.0	20.0	16.0	20.0	27.0	27.0	28.0	26.0
2	25.0	19.0	7.0	5.0	12.0	20.0	18.0	19.0	28.0	26.0	31.0	27.0
3	26.0	20.0	10.0	4.0	15.0	18.0	19.0	19.0	28.0	27.0	29.0	28.0
4	25.0	20.0	14.0	5.0	17.0	17.0	18.0	19.0	26.0	27.0	30.0	27.0
5	24.0	21.0	15.0	7.0	12.0	14.0	18.0	22.0	24.0	26.0	31.0	25.0
6	24.0	19.0	14.0	9.0	9.0	12.0	18.0	22.0	25.0	25.0	32.0	26.0
7	25.0	20.0	12.0	4.0	11.0	12.0	17.0	19.0	25.0	26.0	31.0	26.0
8	25.0	20.0	13.0	6.0	12.0	12.0	19.0	20.0	24.0	25.0	29.0	27.0
9	25.0	21.0	14.0	6.0	16.0	14.0	20.0	20.0	25.0	24.0	29.0	24.0
10	25.0	20.0	12.0	7.0	19.0	15.0	20.0	23.0	26.0	23.0	30.0	26.0
11	24.0	20.0	13.0	7.0	18.0	17.0	21.0	21.0	26.0	23.0	30.0	27.0
12	24.0	21.0	15.0	9.0	17.0	18.0	21.0	21.0	26.0	23.0	29.0	26.0
13	24.0	20.0	12.0	9.0	16.0	14.0	22.0	21.0	26.0	24.0	27.0	25.0
14	25.0	21.0	10.0	9.0	17.0	15.0	22.0	21.0	27.0	24.0	28.0	28.0
15	22.0	20.0	10.0	6.0	16.0	15.0	22.0	22.0	27.0	23.0	27.0	28.0
16	23.0	20.0	9.0	7.0	16.0	15.0	19.0	22.0	27.0	22.0	27.0	29.0
17	22.0	19.0	8.0	9.0	14.0	16.0	18.0	22.0	24.0	25.0	28.0	28.0
18	22.0	20.0	8.0	9.0	15.0	17.0	21.0	21.0	25.0	26.0	27.0	26.0
19	23.0	21.0	7.0	7.0	13.0	17.0	22.0	19.0	26.0	27.0	27.0	24.0
20	22.0	12.0	8.0	7.0	12.0	---	22.0	20.0	26.0	27.0	26.0	24.0
21	23.0	7.0	8.0	8.0	11.0	17.0	22.0	22.0	25.0	28.0	26.0	24.0
22	17.0	13.0	8.0	9.0	11.0	18.0	21.0	22.0	25.0	27.0	27.0	24.0
23	20.0	17.0	7.0	10.0	13.0	13.0	21.0	23.0	26.0	28.0	28.0	25.0
24	19.0	18.0	5.0	9.0	12.0	18.0	21.0	24.0	27.0	28.0	25.0	25.0
25	15.0	5.0	5.0	9.0	14.0	18.0	21.0	26.0	27.0	27.0	26.0	24.0
26	18.0	4.0	8.0	8.0	14.0	16.0	20.0	24.0	27.0	26.0	27.0	23.0
27	28.0	10.0	9.0	9.0	17.0	17.0	21.0	24.0	27.0	27.0	27.0	23.0
28	25.0	18.0	8.0	7.0	18.0	16.0	21.0	25.0	27.0	27.0	26.0	21.0
29	21.0	17.0	7.0	6.0	18.0	16.0	17.0	25.0	28.0	27.0	27.0	23.0
30	20.0	14.0	6.0	6.0	---	12.0	18.0	25.0	29.0	28.0	27.0	24.0
31	20.0	---	6.0	7.0	---	14.0	---	25.0	---	27.0	26.0	---
MONTH	22.5	17.0	9.5	7.5	14.5	16.0	20.0	22.0	26.0	26.0	28.0	25.5

COLORADO RIVER BASIN

08136700 Colorado River near Stacy, Tex.
(National stream-quality accounting network)

LOCATION.--Lat 31°29'37", long 99°34'25", Coleman-McCulloch County line, on left bank at downstream side of bridge on Farm Road 503, 1.2 miles (1.9 km) upstream from Bois d'Arc Creek, 1.8 miles (2.9 km) northeast of Stacy, 24 miles (39 km) downstream from Concho River, and at mile 604.8 (973.1 km).

DRAINAGE AREA.--24,040 mi² (62,260 km²), of which 12,880 mi² (33,360 km²) is probably noncontributing.

PERIOD OF RECORD.--Discharge: March 1968 to current year. Prior to October 1970, published as "at Stacy".

Water quality: Chemical analyses: April 1968 to current year. Water temperatures: April 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,394.66 ft (425.092 m) above mean sea level (State Highway Department bridge plans).

AVERAGE DISCHARGE.--8 years, 221 ft³/s (6.259 m³/s), 160,100 acre-ft/yr (197 hm³/yr).

EXTREMES.--Discharge: Current year: Maximum discharge, 4,920 ft³/s (139 m³/s) July 26 (gage height, 9.71 ft or 2.960 m); minimum, 1.4 ft³/s (0.040 m³/s) July 3, 4.

Period of record: Maximum discharge, 22,200 ft³/s (629 m³/s) Sept. 19, 1974 (gage height, 16.68 ft or 5.084 m); no flow June 22 to Aug. 3, 1974.

Historic: Maximum discharge since at least 1882, 356,000 ft³/s (10,100 m³/s) Sept. 18, 1936 (gage height, 64.59 ft or 19.687 m), on basis of slope-area measurement of peak flow. The flood of Sept. 18, 1936, was 4 ft (1.2 m) higher than the 1906 flood and 7 to 8 ft (2.1 to 2.4 m) higher than the 1882 flood, from information by local resident.

Water quality: Current year: Maximum daily specific conductance, 2,820 micromhos Jan. 7; minimum daily, 402 micromhos July 26.

Maximum water temperatures, 32.0°C Aug. 16.

Period of record: Maximum daily specific conductance, 3,580 micromhos Sept. 23, 1970; minimum daily, 188 micromhos July 29, 1971.

Maximum water temperatures, 33.5°C July 18, 1971; minimum, 2.0°C Jan. 8, 1970, Dec. 16, 1972, and Jan. 12, 1973.

REMARKS.--Discharge records good. Many diversions above this station for municipal, irrigation, and oilfield operation uses. Effluent from numerous sewage plants is returned to the river. Flow is affected by reservoirs upstream (see stations 08126500 and 08136000). At end of year, flow from 260 mi² (673 km²) above this station was partly controlled by 40 floodwater-retarding structures with a flood-detention capacity of 54,040 acre-ft (66.6 hm³).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	91	101	106	90	35	40	532	50	3.3	102	95
2	44	154	102	105	90	24	37	115	41	2.2	86	105
3	45	764	102	102	89	24	36	218	35	1.6	78	118
4	43	1020	102	99	87	33	32	164	32	447	74	139
5	82	467	101	98	87	38	33	149	31	443	68	139
6	78	297	99	97	83	35	34	141	28	358	61	115
7	78	216	98	92	74	32	35	140	26	196	60	101
8	75	178	98	90	66	33	73	155	24	139	58	95
9	76	155	98	90	68	35	103	151	26	134	53	87
10	77	143	99	92	74	37	85	137	73	132	48	83
11	77	129	100	92	72	53	73	121	78	187	45	84
12	75	122	98	92	71	63	67	113	69	1130	42	88
13	71	115	98	93	68	61	161	112	52	613	41	88
14	43	108	99	94	67	58	420	107	38	362	39	85
15	51	100	98	91	63	52	244	121	28	268	35	77
16	56	98	97	90	64	49	189	171	22	240	33	72
17	55	96	94	89	62	50	162	126	37	932	34	71
18	51	98	92	88	61	54	215	110	38	366	33	65
19	41	100	90	85	63	54	325	104	25	387	41	68
20	117	101	88	84	62	49	234	110	42	457	45	138
21	105	102	90	84	66	48	176	94	56	315	44	2220
22	104	102	92	86	58	46	142	84	34	106	44	1040
23	109	102	92	85	54	45	127	75	24	82	45	440
24	139	102	104	84	54	45	119	72	18	61	42	283
25	140	102	103	84	56	48	116	93	14	238	42	207
26	160	102	98	82	55	43	129	133	11	1340	44	160
27	134	112	111	82	51	44	134	107	8.6	386	41	149
28	117	114	118	88	49	46	114	88	6.5	221	44	203
29	100	114	120	91	43	44	1070	72	5.4	180	59	317
30	97	100	116	94	---	44	1140	62	4.3	147	58	206
31	95	---	110	96	---	43	---	57	---	120	64	---
TOTAL	2852	5574	3108	2825	1947	1372	5870	4234	976.8	9994.1	1603	7138
MEAN	92.0	166	100	91.1	57.1	44.3	196	137	32.6	322	51.7	238
MAX	180	1020	120	106	90	63	1140	532	78	1340	102	2220
MIN	51	91	88	82	43	26	32	57	4.3	1.6	33	65
AC-FT	5660	11060	6160	5600	3860	2720	11640	8400	1940	19820	3180	14160

CAL YR 1975 TOTAL 112069.0 MEAN 397 MAX 7570 MIN 51 AC-FT 222300
WTR YR 1976 TOTAL 47493.9 MEAN 130 MAX 2220 MIN 1.6 AC-FT 94200

COLORADO RIVER BASIN

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08136700 Colorado River near Stacy, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	RIO-CHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	IMMEDIATE COLIFORM (COL. PER 100 ML)	FECAL COLIFORM (COL. PER 100 ML)	STREPTOCOCCI (COLONIES PER 100 ML)
OCT. 06...	1700	55	1910	8.3	21.0	30	11.3	126	3.4	96	48	22
NOV. 03...	1315	1130	1730	7.9	18.0	50	9.4	100	2.4	3500	1800	2300
DEC. 15...	1700	92	2060	7.9	14.0	15	9.2	88	1.9	120	49	68
JAN. 05...	1515	74	2230	7.9	6.5	10	13.0	105	1.2	8	7	8
FEB. 23...	1600	64	2380	8.2	14.5	15	10.1	98	1.1	20	14	2
MAR. 15...	1340	55	2320	8.2	16.5	25	10.6	108	1.2	64	16	34
APR. 06...	0930	34	2450	8.0	19.5	20	7.8	84	1.3	230	38	28
MAY 24...	1300	68	1920	7.5	26.0	70	6.5	79	4.2	750	54	79
JUNE 07...	1530	26	1810	7.8	27.0	65	5.9	76	5.4	130	8	70
JULY 19...	1230	400	976	7.9	27.0	35	8.2	104	3.5	2300	500	710
AUG. 03...	1100	78	1000	7.8	29.0	20	6.2	82	3.0	11000	71	160
SEP. 13...	1330	82	1980	8.2	29.0	70	11.4	150	4.1	970	32	420
DATE	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)
OCT. 06...	580	420	130	61	180	3.3	4.7	188	0	260	380	--
NOV. 03...	550	400	130	54	150	2.8	4.7	183	0	300	330	.5
DEC. 15...	730	540	170	75	180	2.9	4.5	236	0	320	390	.6
JAN. 05...	540	340	140	46	190	3.6	3.8	244	0	300	340	.5
FEB. 23...	760	600	170	81	220	3.5	4.5	200	0	400	440	.7
MAR. 15...	780	620	180	80	210	3.3	4.4	190	0	460	420	.6
APR. 06...	800	660	180	86	220	3.4	4.6	172	0	480	460	.6
MAY 24...	540	420	110	64	190	3.6	4.8	150	0	270	390	.4
JUNE 07...	520	420	110	60	170	3.2	5.5	132	0	250	370	.7
JULY 19...	290	180	73	25	74	1.9	4.5	132	0	110	160	.3
AUG. 03...	300	180	72	28	81	2.1	4.8	140	0	120	170	.4
SEP. 13...	560	450	120	64	200	3.7	8.5	136	0	280	430	.5

COLORADO RIVER BASIN

08136700 Colorado River near Stacy, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED SILICA (SiO_2) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	SUS- PENDE SEDI- MENT (MG/L)	SUS- PENDE SEDI- MENT DIS- CHARGE (T/DAY)	SUS. SED. SIEVE DIAM. & FINER THAN .062 MM
OCT. 06...	18	1390	1130	2.8	.02	.08	.92	.06	7.4	65	9.7	--
NOV. 03...	15	1100	1070	1.8	.01	.13	.78	.07	--	130	397	95
DEC. 15...	14	1270	1270	3.1	.03	.03	.52	.04	--	121	30	80
JAN. 05...	10	1270	1150	7.1	.02	.08	.32	.03	--	8	1.6	54
FEB. 23...	6.6	1500	1430	5.4	.03	.07	.41	.03	10	32	5.5	94
MAR. 15...	5.6	1520	1450	.88	.01	.01	.56	.03	--	63	9.4	84
APR. 06...	4.7	1560	1520	3.1	.06	.08	.55	.01	--	94	8.6	87
MAY 24...	17	1200	1120	1.1	.05	.20	2.3	.13	--	98	18	99
JUNE 07...	16	1180	1050	.00	.00	.05	1.5	.14	12	120	8.4	96
JULY 19...	12	572	524	.59	.01	.10	.12	.07	--	85	92	96
AUG. 03...	15	646	562	.07	.01	.02	1.1	.07	4.4	61	13	98
SEP. 13...	19	--	1190	.23	.01	.01	1.8	.08	--	239	53	86

DATE	TIME	DIS- SOLVED ALUM- INUM (AL) (UG/L)	TOTAL ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)
OCT. 06...	1700	10	3	3	360	0	0	<10	0	0
FEB. 23...	1600	20	2	1	390	1	1	10	0	0
JUNE 07...	1530	160	5	4	330	0	--	10	0	0
AUG. 03...	1100	30	--	4	--	0	0	<10	0	0

DATE	DIS- SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)
OCT. 06...	0	1	0	420	10	10	0	50	40
FEB. 23...	0	9	4	390	10	8	3	60	10
JUNE 07...	0	11	--	2300	310	15	--	50	160
AUG. 03...	0	6	0	800	0	5	0	30	90

DATE	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	DIS- SOLVED SELE- NIUM (SE) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)
OCT. 06...	0	.1	.1	0	2	2	2600	30	10
FEB. 23...	0	.1	.1	1	4	3	3300	20	10
JUNE 07...	90	.2	.2	7	1	0	2500	20	--
AUG. 03...	10	--	.0	0	--	1	1500	20	20

COLORADO RIVER BASIN

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08136700 Colorado River near Stacy, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PERIPHYTON

Date	Length of exposure (days)	Biomass (g/m ²)		Chlorophyll a (mg/m ²)	Chlorophyll b (mg/m ²)	Biomass pigment ratio	Sampling method
		Dry weight	Ash weight				
NOV. 03	28	52	45	12	0.3	6.10	Polyethylene strip
MAR. 15	21	22	20	6.3	.0	380	Polyethylene strip
MAY 24	30	64.2	57.9	17.0	.899	370	Polyethylene strip

OCT. 6, 1975 1700 HOURS

NOV. 3, 1975 1315 HOURS

PHYTOPLANKTON 180,000 CELLS/ML

PHYTOPLANKTON 95,000 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT	ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA			CHLOROPHYTA		
..CHLOROPHYCEAE			..CHLOROPHYCEAE		
..CHLOROCOCCALES			..CHLOROCOCCALES		
...OCCYSTACEAE			...OCCYSTACEAE		
....ANKISTRODESMUS	1,900	1	....ANKISTRODESMUS	2,600	3
....DICTYOSPHAERIUM	3,200	2	....TETRAEDRON	860	1
....OOCYSTIS	6,200	3	...SCENEDESMACEAE		
...SCENEDESMACEAE			....SCENEDESMUS	12,000	13
....CRUCIGENIA	6,400	4	..VOLVOCALES		
...SCENEDESMUS	14,000	8	...CHLAMYDOMONADACEAE		
..VOLVOCALES			....CHLAMYDOMONAS	860	1
...CHLAMYDOMONADACEAE			CHRYSOPHYTA		
....CHLAMYDOMONAS		0	..BACILLARIOPHYCEAE		
CHRYSOPHYTA			..CENTRALES		
..BACILLARIOPHYCEAE			...COSCINODISCACEAE		
..PENNALES			....CYCLOTELLA	3,500	4
...NITZSCHIAEAE			....MELOSIRA	860	1
....NITZSCHIA		0	..PENNALES		
CYANOPHYTA			...DIATOMACEAE		
..MYXOPHYCEAE			....DIATOMA	860	1
...CHROOCOCCALES			...NAVICULACEAE		
....CHROOCOCCACEAE			....CALONEIS	860	1
....AGMENELLUM	97,000	55	...NITZSCHIAEAE		
....ANACYSTIS	21,000	12	....NITZSCHIA	6,100	6
...OSCILLATORIALES			...SURIPELLACEAE		
....OSCILLATORIAEAE			....CYMATOPLEURA	860	1
....LYNGBYA	26,000	15	CYANOPHYTA		
			..MYXOPHYCEAE		
			...CHROOCOCCALES		
			....CHROOCOCCACEAE		
			....AGMENELLUM	33,000	35
			....ANACYSTIS	29,000	31
			...OSCILLATORIALES		
			....OSCILLATORIAEAE		
			....OSCILLATORIA		0
			....SPIRULINA	3,500	4

08136700 Colorado River near Stacy, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

DEC. 15, 1975 1700 HOURS

JAN. 5, 1976 1515 HOURS

PHYTOPLANKTON 10,000 CELLS/ML

PHYTOPLANKTON 5,800 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT	ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA			CHLOROPHYTA		
..CHLOROPHYCEAE			..CHLOROPHYCEAE		
...CHLOROCOCCALES			...CHLOROCOCCALES		
...COELASTRACEAE			...HYDRODICTYACEAE		
....COELASTRUM	520	5	....PEDIASTRUM		0
...HYDRODICTYACEAE			...OCCYSTACEAE		
....PEDIASTRUM	520	5	....ANKISTRODESMUS	370	6
...OCCYSTACEAE			....DICTYOSPHAERIUM	740	13
....ANKISTRODESMUS	720	7	....FRANCEIA		0
....DICTYOSPHAERIUM	260	3	....OOCYSTIS	290	5
....FRANCEIA	130	1	....TETRAEDRON	57	1
....KINCHNERIELLA	65	1	...SCENEDESMACEAE		
....OOCYSTIS	590	6	....CRUCIGENIA		0
....TETRAEDRON	65	1	....SCENEDESMUS	690	12
...SCENEDESMACEAE			CHRYSTOPHYTA		
....CRUCIGENIA	260	3	..BACILLARIOPHYCEAE		
....SCENEDESMUS	2,500	24	..CENTRALES		
CHRYSTOPHYTA			...COSCINODISCEAE		
..BACILLARIOPHYCEAE			....CYCLOTELLA	57	1
..PENNALES			..PENNALES		
...NAVICULACEAE			....NAVICULACEAE		
....AMPHIPRORA		0	....AMPHIPRORA		0
....DIPLOEIS	65	1	....DIPLOEIS		0
....GYROSIGMA	65	1	....GYROSIGMA		0
...NAVICULA	260	3	....NAVICULA		0
....NITZSCHIAEAE			...NITZSCHIAEAE		
....NITZSCHIA	460	4	....DENTICULA		0
CYANOPHYTA			....NITZSCHIA	110	2
..MYXOPHYCEAE			CYANOPHYTA		
...CHROOCOCCALES			..MYXOPHYCEAE		
...CHROOCOCCACEAE			...CHROOCOCCALES		
....AGMENELLUM		0	...CHROOCOCCACEAE		
....ANACYSTIS	3,600	36	....ANACYSTIS	1,900	33
...OSCILLATORIALES			...OSCILLATORIALES		
...OSCILLATORIAEAE			...OSCILLATORIAEAE		
....OSCILLATORIA		0	...OSCILLATORIA	1,300	22
EUGLENOPHYTA			EUGLENOPHYTA		
..CRYPTOPHYCEAE			..CRYPTOPHYCEAE		
...CRYPTOMONIDALES			...CRYPTOMONIDALES		
...CRYPTOMONODACEAE			...CRYPTOMONODACEAE		
....CRYPTOMONAS	65	1	...CRYPTOMONAS	170	3
..EUGLENACEAE			PYRRHOPHYTA		
...EUGLENALES			..DINOPHYCEAE		
...EUGLENAEAE			...PERIDINIALES		
....EUGLENA		0	...GLENODINIACEAE		
....PHACUS	65	1GLENODINIUM		0

COLORADO RIVER BASIN

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08136700 Colorado River near Stacy, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

FEB. 23, 1976 1600 HOURS

MAR. 15, 1976 1340 HOURS

PHYTOPLANKTON 15,000 CELLS/ML

PHYTOPLANKTON 18,000 CELLS/ML

ORGANISM__NAME	CELLS/ML	PER_CENT	ORGANISM__NAME	CELLS/ML	PER_CENT
CHLOROPHYTA			CHLOROPHYTA		
..CHLOROPHYCEAE			..CHLOROPHYCEAE		
..CHLOROCOCCALES			..CHLOROCOCCALES		
...MICRACTINIACEAE			...OCCYSTACEAE		
....ERRERELLA		0	....ANKISTRODESMUS	1,900	11
....OCCYSTACEAE			....DICTYOSPHAERIUM	650	4
....ANKISTRODESMUS	1,300	8	....SELENASTRUM		0
....DICTYOSPHAERIUM	1,900	13	....TETRAEDRON	330	2
....OCCYSTIS		0	....WESTELLA		0
....TETRAEDRON	96	1	...SCENEDESMACEAE		
...SCENEDESMACEAE			....CRUCIGENIA		0
....CRUCIGENIA	390	3	....SCENEDESMUS	1,100	6
....SCENEDESMUS	3,700	24	CHRYSTOPHYTA		
....TETRASTRUM	390	3	..BACILLARIOPHYCEAE		
CHRYSTOPHYTA			..CENTRALES		
..BACILLARIOPHYCEAE			...COSCINODISCACEAE		
..CENTRALES			....CYCLOTELLA	1,200	7
...COSCINODISCACEAE			..PENNALES		
....CYCLOTELLA	96	1	..NAVICULACEAE		
..PENNALES			....DIPLONEIS		0
...CYMBELLACEAE			....GYROSIGMA		0
....CYMBELLA	96	1	...NITZSCHIAEAE		
..NAVICULACEAE			....NITZSCHIA	2,900	17
....AMPHIPRORA		0	..CHRYSTOPHYCEAE		
....NAVICULA	96	1	..CHRYSONOMADALES		
...NITZSCHIAEAE			...CHROMULINACEAE		
....NITZSCHIA	1,500	10	....CHRYSOCOCCLUS	490	3
CYANOPHYTA			CYANOPHYTA		
..MYXOPHYCEAE			..MYXOPHYCEAE		
..CHROOCOCCALES			..CHROOCOCCALES		
...CHROOCOCCACEAE			...CHROOCOCCACEAE		
....AGMENELLUM		0	....ANACYSTIS	7,900	44
....ANACYSTIS	5,500	37	..OSCILLATORIALES		
..OSCILLATORIALES			...OSCILLATORIAEAE		
...OSCILLATORIAEAE			....LYNGBYA	1,100	6
....OSCILLATORIA		0	EUGLENOPHYTA		
EUGLENOPHYTA			..EUGLENOPHYCEAE		
..EUGLENOPHYCEAE			...EUGLENALES		
...EUGLENALES			..EUGLENAEAE		
....EUGLENAEAE			....EUGLENA		0
....EUGLENA		0			

COLORADO RIVER BASIN

08136700 Colorado River near Stacy, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

APR. 6, 1976 0930 HOURS

PHYTOPLANKTON 2,800 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...HYDRODICTYACEAE		
...PEDIASTRUM		0
...OCCYSTACEAE		
...ANKISTRODESMUS	240	9
...DICTYOSPHAERIUM		0
...SCENEDESMACEAE		
...CRUCIGENIA	640	23
...SCENEDESMUS	970	34
...VOLVOCALES		
...CHLAMYDOMONADACEAE		
...CHLAMYDOMONAS	40	1
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINODISCAEAE		
...CYCLOTELLA	40	1
..PENNALES		
...CYMBELLACEAE		
...AMPHORA		0
...CYMBELLA		0
...FRAGILARIACEAE		
...SYNEDRA		0
...NAVICULACEAE		
...AMPHIPRORA	40	1
...NAVICULA	160	6
...NITZSCHIAEAE		
...NITZSCHIA	360	13
CYANOPHYTA		
..MYXOPHYCEAE		
...CHROOCOCCALES		
...CHROOCOCCACEAE		
...ANACYSTIS	160	6
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
...EUGLENALES		
...EUGLENACEAE		
...EUGLENA	120	4
...EUTREPTIA		0
...TRACHELOMONAS		0
PYRRHOPHYTA		
..DINOPHYCEAE		
...PERIDINIALES		
...PERIDINIAEAE		
...PERIDINIUM	40	1

MAY 24, 1976 1300 HOURS

PHYTOPLANKTON 210,000 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...CHARACIACEAE		
...SCHROEDERIA		0
...OCCYSTACEAE		
...ANKISTRODESMUS	4,300	2
...CLOSTERIOPSIS		0
...DICTYOSPHAERIUM	5,600	3
...OCCYSTIS		0
...TETRAEDRON	1,700	1
...WESTELLA		0
...SCENEDESMACEAE		
...CRUCIGENIA	5,100	2
...SCENEDESMUS	18,000	9
...VOLVOCALES		
...CHLAMYDOMONADACEAE		
...CHLAMYDOMONAS	17,000	8
...ZYGNEMATALES		
...DESMIDIACEAE		
...COSMARIUM		0
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINODISCAEAE		
...CYCLOTELLA	2,100	1
..PENNALES		
...ACHNANTHACEAE		
...ACHNANTHES	1,700	1
...FRAGILARIACEAE		
...FRAGILARIA	5,600	3
...NAVICULACEAE		
...NAVICULA		0
...NITZSCHIAEAE		
...NITZSCHIA	13,000	6
CYANOPHYTA		
..MYXOPHYCEAE		
...CHROOCOCCALES		
...CHROOCOCCACEAE		
...AGMENELLUM	22,000	11
...ANACYSTIS	65,000	31
...OSCILLATORIALES		
...OSCILLATORIAEAE		
...LYNGBYA	18,000	8
...OSCILLATORIA	30,000	14
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
...EUGLENALES		
...EUGLENACEAE		
...EUGLENA		0

COLORADO RIVER BASIN

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08136700 Colorado River near Stacy, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

JUNE 7, 1976 1530 HOURS

JULY 19, 1976 1230 HOURS

PHYTOPLANKTON 170,000 CELLS/ML

PHYTOPLANKTON 160,000 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT	ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA			CHLOROPHYTA		
..CHLOROPHYCEAE			..CHLOROPHYCEAE		
..CHLOROCOCCALES			..CHLOROCOCCALES		
..OCCYSTACEAE			..CHAPACIACEAE		
....ANKISTROESMUS	3,200	2	....SCHROEDERIA	1,100	1
....TETRAEDRON		0	....HYDRODICTYACEAE		
..SCENEDESMACEAE			....PEDIATRUM		0
....CRUCIGENIA	2,600	1	..OCCYSTACEAE		
....SCENEDESMUS	21,000	12	....ANKISTROESMUS		0
..VOLVOCALES			....KIKCHNEHIELLA		0
..CHLAMYDOMONADACEAE			....OCCYSTIS	4,800	3
....CHLAMYDOMONAS	14,000	8	..SCENEDESMACEAE		
CHRYSOPHYTA			....CRUCIGENIA	8,900	6
..BACILLARIOPHYCEAE			..SCENEDESMUS	7,400	5
..CENTRALES			....TETRASTRUM	3,000	2
..COSCINODISCACEAE			..VOLVOCALES		
....CYCLOTELLA	1,900	1	..CHLAMYDOMONADACEAE		
..PENNALES			....CHLAMYDOMONAS	1,100	1
....ACHNANTHACEAE			....PHACOTACEAE		
....ACHNANTHES	17,000	10	....PHACOTUS		0
....NITZSCHIAEAE			....ZYGNEMATALES		
....NITZSCHIA	3,800	2	..DESMIDIACEAE		
CYANOPHYTA			....STAUSTRUM		0
..MYXOPHYCEAE			CHRYSOPHYTA		
..CHROOCOCCALES			..BACILLARIOPHYCEAE		
..CHROOCOCCACEAE			..CENTRALES		
....AGMENELLUM	92,000	54	..COSCINODISCACEAE		
....ANACYSTIS	9,000	5	....CYCLOTELLA	3,300	2
EUGLENOPHYTA			....MELOSIHA	1,100	1
..CRYPTOPHYCEAE			..PENNALES		
..CRYPTOMONIDALES			....NAVICULACEAE		
..CRYPTOMONODACEAE			....AMPHIPORA		0
....CRYPTOMONAS	1,300	1	..NITZSCHIAEAE		
..EUGLENOPHYCEAE			....NITZSCHIA	7,800	5
..EUGENALES			CYANOPHYTA		
..EUGLENACEAE			..MYXOPHYCEAE		
....EUGLENA	2,600	1	..CHROOCOCCALES		
....TRACHELOMONAS	1,900	1	..CHROOCOCCACEAE		
			....AGMENELLUM	47,000	30
			....ANACYSTIS	40,000	25
			..OSCILLATORIALES		
			....OSCILLATORIAEAE		
			....LYNGBYA	7,400	5
			....OSCILLATORIA	16,000	10
			..RIVULARIACEAE		
			....RAPHIIDOPSIS	7,800	5
			EUGLENOPHYTA		
			..EUGLENOPHYCEAE		
			..EUGENALES		
			..EUGLENACEAE		
			....PHACUS		0

COLORADO RIVER BASIN

08136700 Colorado River near Stacy, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

AUG. 3, 1976 1100 HOURS

PHYTOPLANKTON 180,000 CELLS/ML

ORGANISM__NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...COELASTRACEAE		
...COELASTRUM		0
...HYDRODICTYACEAE		
...PEDIASTRUM	1,300	1
...OCCYSTACEAE		
...DICTYOSPHAERIUM	5,100	3
...OOCYSTIS		0
...TREUBARIA		0
...WESTELLA	1,300	1
...SCENEDESMACEAE		
...CRUCIGENIA	1,300	1
...SCENEDESMUS		0
...VOLVOCALES		
...CHLAMYDOMONADACEAE		
...CHLAMYDOMONAS		0
...ZYGNEMATALES		
...DESMIDIACEAE		
...STAUSTRUM		0
CHRYSTOPHYTA		
..BACILLARIOPHYCEAE		
..PENNALES		
...CYMBELLACEAE		
...CYMBELLA		0
...NAVICULACEAE		
...AMPHIPRORA		0
...NAVICULA		0
...NITZSCHIA		
...DENTICULA		0
...NITZSCHIA	1,900	1
...XANTHOPHYCEAE		
..HETEROCOCCALES		
...CHLOROTHECIACEAE		
...OPHIOTYUM		0
CYANOPHYTA		
..MYXOPHYCEAE		
...CHROOCOCCALES		
...CHROOCOCCACEAE		
...AGMENELLUM	46,000	26
...ANACYSTIS	49,000	28
...OSCILLATORIALES		
...OSCILLATORIA		
...OSCILLATORIA		
...RIVULARIACEAE	65,000	37
...RAPHIDIOPSIS	4,800	3
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
..EUGLENALES		
...EUGLENACEAE		
...PHACUS		0
...TRACHELOMONAS		0
PYRRHOPHYTA		
..DINOPHYCEAE		
...PERIDINIALES		
...GLENODINIACEAE		
...GLENODINIUM		0

SEP. 13, 1976 1330 HOURS

PHYTOPLANKTON 1,200,000 CELLS/ML

ORGANISM__NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...OCCYSTACEAE		
...ANKISTRODESMUS		0
...DICTYOSPHAERIUM		0
...OOCYSTIS		0
...SCENEDESMACEAE		
...CRUCIGENIA		0
...SCENEDESMUS	9,100	1
CHRYSTOPHYTA		
..BACILLARIOPHYCEAE		
..PENNALES		
...NITZSCHIA		
...NITZSCHIA	11,000	1
CYANOPHYTA		
..MYXOPHYCEAE		
...CHROOCOCCALES		
...CHROOCOCCACEAE		
...AGMENELLUM	220,000	18
...ANACYSTIS	54,000	4
...OSCILLATORIALES		
...OSCILLATORIA		
...ARTHROSPIRA	320,000	25
...OSCILLATORIA	620,000	50

COLORADO RIVER BASIN

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08136700 Colorado River near Stacy, Tex.--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

MONTH	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA+MG) (MG/L)
OCT. 1975.....	2852	1990	1180	9100	370	2860	290	2230	600
NOV. 1975.....	5574	1580	920	13800	280	4280	210	3180	460
DEC. 1975.....	3108	2010	1190	9970	380	3150	290	2470	610
JAN. 1976.....	2825	2230	1330	10200	420	3230	360	2760	690
FEB. 1976.....	1904	2320	1380	7110	440	2270	390	1980	730
MAR. 1976.....	1372	2380	1430	5280	450	1680	410	1500	750
APR. 1976.....	5870	2130	1260	20000	400	6370	330	5240	650
MAY 1976.....	4234	1560	910	10400	280	3210	210	2360	460
JUNE 1976.....	976.8	1870	1100	2900	340	910	260	686	550
JULY 1976.....	9994.1	1000	570	15400	160	4300	120	3250	310
AUG. 1976.....	1603	1360	790	3400	240	1030	180	759	410
SEPT 1976.....	7138	1160	670	12900	190	3760	150	2830	350
TOTAL	47450.89	**	**	120000	**	37000	**	29200	**
WTD.AVG.	130	1600	940	**	290	**	230	**	470

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1970	2270	1760	2110	2320	2370	2430	1020	1800	2070	1200	1860
2	1970	2260	1780	2160	2340	2350	2450	1230	1810	2110	1080	1850
3	1960	1730	1810	2120	2340	2350	2470	1520	1800	2090	1000	1820
4	1950	1500	1900	2150	2300	2350	2450	1490	1810	1200	987	1930
5	1940	1420	1910	2230	2290	2350	2430	1480	1810	1060	978	2030
6	1910	1340	1910	2150	2300	2390	2450	1490	1820	1100	978	2080
7	1950	1310	1930	2420	2300	2390	2440	1500	1810	1910	978	1990
8	1950	1460	1960	2150	2320	2380	2420	1530	1840	2120	990	2060
9	1950	1470	1960	2220	2350	2330	2420	1480	1840	2180	1060	2120
10	1950	1480	2060	2220	2350	2340	2340	1670	1850	1790	1160	2050
11	1950	1410	2040	2220	2310	2340	2340	1520	1890	1600	1240	2040
12	1940	1390	2040	2220	2340	2330	2350	1590	1920	920	1320	2000
13	1930	1440	2050	2220	2310	2340	2380	1590	1920	1020	1390	1980
14	1930	1460	2050	2260	2250	2330	2480	1200	1920	1050	1450	1990
15	1920	1480	2060	2260	2300	2320	2260	1730	1920	1130	1500	2000
16	1910	1500	2060	2220	2330	2330	2330	1760	1960	1090	1530	2000
17	1910	1550	2010	1970	2300	2350	2610	1780	1960	441	1560	2000
18	1910	1550	2030	2040	2290	2340	2000	1890	1340	720	1580	1990
19	1900	1600	2080	2260	2250	2390	1980	1870	1810	922	1610	1980
20	1900	1630	2080	2250	2330	2410	2270	1870	1900	1300	1650	1700
21	1900	1630	2080	2250	2280	2420	2590	1920	1960	1560	1670	900
22	1910	1660	2080	2260	2300	2430	2170	1920	1940	1970	1690	520
23	1900	1690	2120	2240	2380	2430	2170	1920	1990	1830	1700	866
24	2020	1700	2100	2280	2340	2430	2140	1920	2010	1560	1700	860
25	1960	1720	2080	2280	2340	2430	2230	1920	2050	1100	1730	893
26	1960	1700	2060	2280	2330	2410	2080	1870	2050	402	1760	900
27	2210	1720	2040	2310	2360	2430	2060	1530	2050	608	1800	1050
28	2210	1750	2030	2260	2340	2440	2050	1930	2050	1440	1830	1110
29	2210	1780	2010	2270	2350	2440	1970	1860	2050	1310	1850	1300
30	2200	1760	2080	2310	---	2440	1780	1860	2060	1240	1870	1230
31	2230	---	2120	2320	---	2430	---	1430	---	1220	1180	---
MONTH	1980	1610	2010	2240	2320	2380	2280	1680	1900	1360	1420	1640

COLORADO RIVER BASIN

08136700 Colorado River near Stacy, Tex.--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.0	20.0	10.0	10.0	---	20.0	15.5	16.5	31.0	26.5	---	25.5
2	20.0	---	12.0	8.0	9.0	20.0	21.0	---	25.5	28.0	30.0	25.5
3	20.0	18.5	11.0	6.5	10.0	21.0	20.0	21.0	26.5	26.5	29.5	26.5
4	21.0	18.0	12.0	---	13.0	18.5	---	18.5	26.5	---	29.5	25.5
5	---	23.5	10.0	6.5	10.0	14.5	20.0	20.0	26.5	26.5	29.0	29.0
6	21.0	23.5	11.0	7.0	---	---	20.0	21.0	---	25.5	31.0	26.5
7	21.0	21.0	---	4.5	8.0	---	18.5	20.0	26.5	25.5	29.5	27.0
8	21.0	16.5	13.0	4.5	---	10.0	20.0	20.0	25.5	29.0	---	28.0
9	22.0	---	10.0	4.5	15.5	14.5	19.0	---	25.5	26.5	29.5	25.5
10	25.5	18.0	13.0	9.0	14.5	15.5	18.5	20.0	25.5	26.5	26.5	24.5
11	24.0	20.0	14.5	---	15.5	20.0	20.0	22.0	25.5	---	29.0	24.5
12	---	14.5	14.5	9.0	15.5	15.5	22.0	24.0	25.5	24.5	26.5	---
13	22.0	13.0	14.5	10.0	21.0	9.0	20.0	22.0	---	24.5	28.0	25.5
14	24.5	15.5	---	9.0	16.5	---	23.5	26.5	26.5	24.0	24.0	25.5
15	23.5	15.5	13.5	9.0	---	15.5	22.0	22.0	26.5	25.5	---	26.5
16	21.0	---	11.0	10.0	18.5	13.0	21.0	24.5	26.5	26.5	32.0	26.5
17	20.0	15.5	8.0	11.0	---	14.5	21.0	24.0	26.5	24.0	26.5	26.5
18	20.0	16.5	7.0	---	15.5	15.5	---	22.0	26.5	---	28.0	26.5
19	---	---	6.5	10.0	16.5	18.5	21.0	22.0	25.5	25.5	26.5	---
20	21.0	14.0	6.5	10.0	16.5	18.5	18.5	21.0	---	26.5	28.0	24.5
21	20.0	11.0	---	9.0	16.5	---	20.0	22.0	26.5	25.5	29.5	23.5
22	20.0	11.0	9.0	8.0	---	18.5	21.0	24.0	25.5	26.5	---	21.0
23	21.0	---	7.0	13.5	18.5	16.5	22.0	---	26.5	26.5	29.5	22.0
24	22.0	9.0	---	13.0	16.5	18.5	22.0	25.5	26.0	29.0	26.5	25.5
25	21.0	10.0	---	---	13.0	20.0	22.0	25.5	25.5	---	26.5	24.0
26	20.0	7.0	9.0	9.0	13.5	20.0	23.5	26.5	26.5	24.5	25.5	---
27	20.0	---	---	9.0	15.5	16.5	21.0	24.0	---	26.5	26.5	28.0
28	19.0	13.0	---	7.0	16.5	---	21.0	22.0	26.5	26.5	25.5	22.0
29	16.5	14.5	6.5	9.0	---	15.5	16.5	25.5	26.5	29.0	---	20.0
30	16.5	14.5	10.0	9.0	---	14.5	15.5	25.5	28.0	28.0	26.5	21.0
31	---	---	9.0	---	---	---	---	---	---	---	26.5	---
MONTH	21.0	15.5	---	8.5	---	16.5	20.0	22.5	26.5	26.5	28.0	25.0

COLORADO RIVER BASIN

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08137000 Mukewater Creek subwatershed No. 9 near Trickham, Tex.

LOCATION.--Lat 31°41'36", long 99°12'12", Coleman County, near center of dam on tributary to East Fork Mukewater Creek, 1.5 miles (2.4 km) upstream from mouth, 4.5 miles (7.2 km) southwest of Bangs, and 7.1 miles (11.4 km) north of Trickham.

DRAINAGE AREA.--4.02 mi² (10.41 km²).

PERIOD OF RECORD.--January 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,500.01 ft (457.203 m) above mean sea level.

AVERAGE INFLOW.--15 years, 572 acre-ft/yr (705,000 m³/yr).

AVERAGE OUTFLOW.--15 years, 461 acre-ft/yr (568,000 m³/yr).

EXTREMES.--Current year: No outflow during year. Maximum inflow, about 200 ft³/s (5.66 m³/s) about July 11; no inflow most of time. Period of record: Maximum outflow, 39.9 ft³/s (1.13 m³/s) Sept. 24, 1971 (gage height, 25.04 ft or 7.632 m); no outflow most of time each year. Maximum inflow, 1,630 ft³/s (46.2 m³/s), average for 5-minute interval, June 3, 1961, computed from change in pool contents and adjusted for outflow and rainfall on pool surface during time of peak inflow; no inflow most of time each year.

REMARKS.--Records good except those for period of no gage-height record, which are poor. The pool is formed by a rolled earthfill dam 2,070 ft (631 m) long with a 150-foot-wide (46-meter) earthen spillway at the right end of dam. The crest of emergency spillway is at gage height 27.1 ft (8.26 m). The dam was completed in November 1960. The outlet structure consists of a 2- by 4-foot (0.6- by 1-meter) uncontrolled concrete drop-inlet structure that is connected to a 19-inch (483-millimeter) concrete outlet pipe. There are four openings in the top of the drop inlet; the dimensions are 1 by 2 ft (0.3 by 0.6 m) at the upstream and downstream sides, and 1 by 4 ft (0.3 by 1 m) on the right and left sides; the crest of these openings is at gage height 18.2 ft (5.55 m). There is also a sluice gate at the end of an 8-inch (203-millimeter) pipe that is connected to the upstream side of the drop-inlet structure. Gage height at invert of 8-inch (203-millimeter) pipe is 10.7 ft (3.26 m). The area and capacity tables are based on a sedimentation survey by the Soil Conservation Service made Dec. 1, 1961. There is a recording rain gage at this site.

POOL WATER BUDGET, IN ACRE-FEET, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
Inflow 1/	1.2	2.8	2.0	1.2	1.5	1.5	16.3	0.5	1.7	79.9	2.8	2.7
Outflow	0	0	0	0	0	0	0	0	0	0	0	0
(+)	-9.3	-3.6	-3.6	-4.3	-4.9	-5.6	+13.1	-7.0	-7.4	+68.8	-21.5	-8.3
(++)	.67	1.40	.51	0	0	.34	3.65	1.26	1.58	6.54	.72	2.19
CAL YR 1975: Inflow	918		Outflow	843	+	-55.6	++	20.33				
WTR YR 1976: Inflow	114		Outflow	0	+	+6.4	++	18.86				

PEAK INFLOW (BASE, 150 FT³/S).--About July 11 (time unknown) about 200 ft³/s.

1/ Inflow adjusted for rainfall on pool and pool losses.

+

++ Rainfall, in inches.

NOTE.--No gage-height record July 5 to Aug. 5; inflow estimated.

08138000 Colorado River at Winchell, Tex.

LOCATION.--Lat 31°28'04", long 99°09'43", McCulloch-Brown County line, near left bank on downstream end of pier of bridge on U.S. Highway 377, 0.3 mile (0.5 km) south of Winchell, 5.9 miles (9.5 km) downstream from Home Creek, and at mile 560.7 (902.2 km).

DRAINAGE AREA.--24,580 mi² (63,660 km²), approximately, of which 12,880 mi² (33,360 km²) is probably noncontributing.

PERIOD OF RECORD.--Discharge: November 1923 to September 1934 (published as "near Milburn"), January 1939 to current year.
Water quality: Chemical analyses: November 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,264.86 ft (385.529 m) above mean sea level. November 1923 to September 1934, nonrecording gage at site 4.2 miles (6.8 km) downstream at datum 10.14 ft (3.091 m) lower. Jan. 13, 1939, to Mar. 24, 1940, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--39 years (1924-34, 1939-68) prior to completion of Robert Lee Dam, 628 ft³/s (17.78 m³/s), 455,000 acre-ft/yr (561 hm³/yr); 8 years (1968-76) partially regulated, 263 ft³/s (7.448 m³/s), 190,500 acre-ft/yr (235 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 4,020 ft³/s (114 m³/s) July 17 (gage height, 10.31 ft or 3.142 m); minimum, 2.7 ft³/s (0.076 m³/s) July 3, 4.

Period of record: Maximum discharge, 76,100 ft³/s (2,160 m³/s) Oct. 15, 1930 (gage height, 51.8 ft or 15.79 m, present site and datum); no flow at times.

Highest stages since 1882 were 62.2 ft (18.96 m) Sept. 19, 1936, and 56.2 ft (17.13 m) Aug. 8, 1906, at railway bridge 1,000 ft (305 m) upstream and converted to present site and datum, from information by Gulf, Colorado, and Santa Fe Railway Co.

REMARKS.--Discharge records good. Many diversions above station for irrigation, municipal supply, and oilfield operation. Flow is affected by upstream reservoirs as that for Colorado River near Stacy (station 08136700). At end of year, from from 477 mi² (1,235 km²) above this station was affected by 83 floodwater-retarding structures with a flood-detention capacity of 98,530 acre-ft (121 hm³).

REVISIONS.--WSP 1118: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64	75	94	165	100	49	30	277	52	5.3	119	1420
2	62	117	89	106	97	46	30	483	46	4.0	100	1030
3	54	217	86	97	46	41	29	306	41	2.8	84	395
4	56	965	88	93	92	35	27	215	34	330	73	233
5	55	737	90	90	88	23	26	146	35	756	67	185
6	56	444	89	89	86	27	26	146	27	624	63	166
7	52	291	89	88	85	33	26	151	26	398	57	130
8	49	213	89	86	82	37	29	137	24	258	52	104
9	49	169	88	87	75	35	29	57	23	243	48	98
10	44	147	88	87	70	35	49	150	20	590	46	86
11	49	134	89	87	73	35	77	138	18	337	43	76
12	49	114	89	87	75	39	64	155	33	867	38	75
13	44	116	88	87	74	45	55	154	57	1280	35	76
14	47	106	89	86	73	55	89	138	49	649	33	76
15	43	97	88	87	72	53	433	167	40	471	30	72
16	39	94	87	87	71	49	286	97	32	374	27	68
17	34	91	84	85	68	45	194	163	40	2520	26	63
18	33	89	82	85	67	42	156	131	109	1150	25	60
19	33	87	81	81	65	42	214	108	85	681	25	59
20	31	87	79	74	60	44	348	97	52	548	24	94
21	61	80	77	80	64	44	243	104	37	524	26	228
22	44	87	77	81	67	41	174	97	26	358	34	1990
23	42	87	82	82	71	38	154	79	44	253	34	722
24	44	85	89	83	63	35	121	71	34	207	35	414
25	59	90	96	83	57	35	101	66	26	180	36	273
26	156	91	99	83	56	36	95	62	21	779	38	205
27	137	92	94	83	59	35	90	106	17	680	34	163
28	124	93	100	82	56	34	122	112	13	380	35	552
29	102	95	113	85	52	30	130	87	9.1	233	41	298
30	98	93	119	89	---	30	1130	70	6.5	182	48	322
31	80	---	115	95	---	32	---	59	---	146	67	---
TOTAL	2054	5279	2807	2698	2118	1207	4579	5046	1076.5	16050.1	1443	10137
MEAN	66.4	176	90.5	87.0	73.0	38.9	153	163	35.9	518	46.5	338
MAX	156	465	114	105	100	55	1130	477	109	2520	119	1990
MIN	31	75	77	78	52	27	26	59	6.5	2.8	24	59
AC-FT	4080	10476	5570	5350	4200	2390	9040	10010	2140	31840	2860	20110
CAL YR 1975	TOTAL	124893.0	MEAN	342	MAX	7310	MIN	31	AC-FT	247700		
WTR YR 1976	TOTAL	54498.6	MEAN	149	MAX	2520	MIN	2.8	AC-FT	108100		

PEAK DISCHARGE (BASE, 12,000 FT³/S).--No peak above base.

COLORADO RIVER BASIN

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08138000 Colorado River at Winchell, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO- MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)
OCT.										
7...	1450	53	1920	8.2	23.0	540	430	110	64	180
NOV.										
17...	1335	91	1520	8.3	15.5	470	330	110	47	140
JAN.										
5...	1540	91	2100	8.4	6.0	610	440	130	69	190
FEB.										
17...	1440	66	2340	8.3	19.0	750	600	170	80	220
MAR.										
5...	1635	29	2390	8.2	20.0	770	650	170	85	240
JUNE										
21...	1445	37	1620	7.7	29.0	420	290	92	46	170
AUG.										
2...	1450	100	676	7.6	32.0	190	95	51	16	50
SEP.										
13...	1430	77	1680	7.7	28.0	490	370	110	52	150

DATE	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	HICAM- MONATE (HCO3) (MG/L)	CAR- MONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	LTS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RINE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
OCT.									
7...	3.4	4.8	136	0	270	380	.6	17	1090
NOV.									
17...	2.8	5.5	165	0	250	250	.5	11	895
JAN.									
5...	3.4	4.3	205	0	310	370	.6	11	1190
FEB.									
17...	3.5	4.4	184	0	370	450	.6	6.7	1390
MAR.									
5...	3.8	5.5	152	0	470	450	.6	2.5	1500
JUNE									
21...	3.6	6.1	158	0	180	330	.5	15	917
AUG.									
2...	1.6	4.2	120	0	59	100	.2	9.3	359
SEP.									
13...	3.0	6.0	140	0	240	320	.5	17	965

08139000 Deep Creek subwatershed No. 3 near Placid, Tex.

LOCATION.--Lat 31°17'25", long 99°09'22", McCulloch County, near right end of dam on tributary to Deep Creek and 2.8 miles (4.5 km) south-east of Placid.

DRAINAGE AREA.--3.42 mi² (8.86 km²).

PERIOD OF RECORD.--October 1953 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,500.00 ft (457.200 m) above mean sea level. Prior to Dec. 1, 1953, nonrecording gage at same site and datum.

AVERAGE INFLOW.--23 years, 399 acre-ft/yr (492,000 m³/yr).

AVERAGE OUTFLOW.--23 years, 254 acre-ft/yr (313,000 m³/yr).

EXTREMES.--Current year: No outflow during year. Maximum inflow, 327 ft³/s (9.26 m³/s), average for 15-minute interval, May 12, computed and adjusted as explained below; no inflow for many days.

Period of record: Maximum outflow, 30 ft³/s (0.85 m³/s) May 19, 1955 (gage height, 20.79 ft or 6.337 m); no outflow most of time each year. Maximum inflow, 3,060 ft³/s (86.7 m³/s), average for 5-minute interval, July 26, 1971, computed from change in pool contents and adjusted for outflow and rainfall on pool surface during time of peak inflow; no inflow most of time each year.

REMARKS.--Records good. The pool is formed by an earthfill dam comprised of two sections; the main section is 2,600 ft (792 m) long and the second section is 2,400 ft (732 m) long. An emergency spillway 250 ft (76 m) wide is located at the left end of the main section of dam; crest of the emergency spillway is at gage height 22.0 ft (6.71 m). The dam was completed and storage began in October 1953. The outlet works consist of an uncontrolled 2.5-foot (0.8-meter) square concrete drop-inlet structure, gage height at crest, 13.0 ft (3.96 m), connected to a 17-inch (432-millimeter) concrete outlet pipe. Invert at bottom of outlet pipe is at gage height 5.5 ft (1.68 m). There is also an 8-inch (203-millimeter) controlled water-supply outlet pipe connected to the drop inlet at a gage height of 5.5 ft (1.68 m). Pool capacity is 886 acre-ft (1.09 hm³) at the crest of emergency spillway, 125 acre-ft (1.54 hm³) at crest of drop inlet, and 7.1 acre-ft (0.009 hm³) at controlled outlet pipe. The area and capacity tables are based on a Soil Conservation Service survey dated Aug. 27, 1960. The dam was built by the Soil Conservation Service for flood control. A recording rain gage is located at station.

REVISIONS (WATER YEARS).--WSP 1922: 1954-60.

POOL WATER BUDGET, IN ACRE-FEET, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
Inflow 1/	1.7	4.0	1.1	0.7	0.4	0.6	4.6	30.1	1.2	20.7	8.7	7.7
Outflow	0	0	0	0	0	0	0	0	0	0	0	0
(+)	-10.3	-1.8	-4.4	-5.0	-5.4	-5.2	+1.4	+22.2	-10.5	+13.3	-4.2	-2.1
(++)	.33	1.85	.17	0	0	.18	2.99	2.76	.95	3.19	1.44	1.93
CAL YR 1975: Inflow	370											
			Outflow	276		+ -72.9		++ 17.19				
WTR YR 1976: Inflow	81.5					+ -12.0		++ 15.79				
			Outflow	0								

PEAK INFLOW (BASE, 100 FT³/S).--May 12 (1830) *327 ft³/s.

1/ Inflow adjusted for rainfall on pool and pool losses.

+ Change in contents, in acre-feet.

++ Rainfall, in inches.

* Average for 15-minute interval.

08140600 Lake Clyde near Clyde, Tex.

LOCATION.--Lat 32°19'05", long 99°28'43", Callahan County, at Clyde pump station, 0.6 mile (1.0 km) west of dam on North Prong Pecan Bayou, 2.1 miles (3.4 km) downstream from bridge on Farm Road 604, and 7.0 miles (11.3 km) southeast of Clyde.

DRAINAGE AREA.--37.9 mi² (98.2 km²).

PERIOD OF RECORD.--Contents: January 1970 to current year.

Water quality: Chemical analyses: October 1974 to current year.

GAGE.--Nonrecording gage read once daily. Datum of gage is at mean sea level.

EXTREMES (at 0900).--Current year: Maximum contents, 4,950 acre-ft (6.10 hm³) Oct. 1 (elevation, 1,870.2 ft or 570.04 m); minimum, 3,170 acre-ft (3.91 hm³) Sept. 17-19, 23-30 (elevation, 1,865.4 ft or 568.57 m).

Period of record: Maximum contents, 6,370 acre-ft (7.85 hm³) May 28, 1975 (elevation, 1,873.4 ft or 571.01 m); minimum, 2,370 acre-ft (2.92 hm³) Sept. 15-17, 1974 (elevation, 1,862.7 ft or 567.75 m).

REMARKS.--The lake is formed by a rolled-fill earthen dam 3,950 ft (1,204 m) long. Appreciable storage began in April 1970, and the dam was completed in May 1970. The emergency spillways are two 200-foot-wide (61-meter) cut channels through natural ground located at left end of dam. The service spillway is an uncontrolled 3.5- by 10.5-foot (1.1- by 3.2-meter) reinforced concrete drop inlet that is connected to a 42-inch (1,067-millimeter) concrete outlet pipe. A 14-inch (356-millimeter) controlled drain pipe is connected to the drop inlet. There are four 4.83- by 3.50-foot (1.47- by 1.07-meter) rectangular slots, two on each side, divided by a 10-inch (254-millimeter) concrete web. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	1,888.9	16,530
Crest of spillway.....	1,881.4	10,840
Crest of spillway (invert of drop inlet).....	1,872.0	5,720
Lowest gated outlet (invert).....	1,842.2	60

COOPERATION.--Record of lake elevations and diversions furnished by city of Clyde. Capacity table furnished by the Soil Conservation Service.

Capacity table (elevation, in feet, and contents, in acre-feet)

1,865.0	3,040	1,870.0	4,860
1,868.0	4,080	1,871.0	5,280

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
INSTANTANEOUS OBSERVATIONS AT 0900

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4950	4780	4660	4580	4500	4350	4160	4120	3930	3680	3610	3300
2	4900	4820	4660	4580	4500	4350	4160	4120	3900	3650	3580	3300
3	4900	4860	4660	4580	4500	4350	4160	4120	3900	3650	3580	3300
4	4900	4860	4660	4580	4500	4310	4160	4080	3900	3650	3580	3300
5	4860	4860	4660	4580	4460	4310	4160	4080	3900	3680	3540	3300
6	4860	4860	4660	4580	4460	4310	4120	4120	3900	3680	3540	3270
7	4860	4820	4660	4580	4460	4310	4120	4120	3860	3650	3510	3270
8	4860	4820	4660	4580	4460	4310	4120	4120	3860	3650	3510	3270
9	4860	4820	4620	4580	4460	4310	4120	4080	3860	3650	3510	3240
10	4820	4820	4620	4540	4460	4270	4120	4080	3860	3650	3510	3240
11	4820	4820	4620	4540	4420	4270	4120	4080	3860	3650	3510	3240
12	4820	4780	4620	4540	4420	4270	4120	4080	3860	3680	3470	3240
13	4820	4780	4620	4540	4420	4270	4120	4080	3860	3680	3470	3200
14	4820	4780	4620	4540	4420	4270	4080	4080	3820	3680	3470	3200
15	4820	4780	4620	4540	4420	4270	4080	4040	3820	3680	3440	3200
16	4820	4780	4620	4540	4420	4270	4160	4040	3790	3680	3440	3200
17	4820	4780	4620	4540	4420	4230	4160	4040	3790	3680	3440	3170
18	4780	4740	4620	4540	4420	4230	4160	4040	3790	3680	3440	3170
19	4780	4740	4620	4540	4390	4230	4160	4040	3750	3680	3400	3170
20	4780	4740	4620	4540	4390	4230	4160	4010	3750	3650	3400	3200
21	4780	4740	4620	4540	4390	4230	4160	4010	3750	3650	3370	3200
22	4780	4740	4620	4540	4390	4230	4160	4010	3720	3650	3370	3200
23	4820	4740	4580	4540	4390	4230	4160	4010	3720	3650	3370	3170
24	4820	4700	4580	4540	4390	4230	4160	3970	3720	3650	3340	3170
25	4780	4700	4580	4540	4390	4230	4120	3970	3720	3650	3370	3170
26	4780	4700	4580	4540	4350	4230	4120	3970	3720	3650	3370	3170
27	4780	4700	4580	4540	4350	4230	4120	3970	3720	3650	3340	3170
28	4780	4700	4580	4540	4350	4200	4120	3930	3680	3610	3340	3170
29	4780	4700	4580	4500	4350	4200	4120	3930	3680	3610	3300	3170
30	4780	4700	4580	4500	---	4200	4120	3930	3680	3610	3300	3170
31	4740	---	4580	4500	---	4200	---	3930	---	3610	3300	---
(†)	1869.7	1869.6	1869.3	1869.1	1868.7	1868.3	1868.1	1867.6	1866.9	1866.7	1865.8	1865.4
(*)	-210	-40	-120	-80	-150	-150	-80	-190	-250	-70	-310	-130
(††)	22	20	21	33	19	23	21	23	38	31	45	25
MAX	4950	4860	4660	4580	4500	4350	4160	4120	3930	3680	3610	3300
MIN	4740	4700	4580	4500	4350	4200	4080	3930	3680	3610	3300	3170
CAL YR 1975.....	* -1140				†† 259		MAX 6370		MIN 4580			
WTR YR 1976.....	* -1780				†† 321		MAX 4950		MIN 3170			

† Elevation, in feet, at end of month.

* Change in contents, in acre-feet.

†† Diversions, in acre-feet, for municipal use.

COLORADO RIVER BASIN

08140600 Lake Clyde near Clyde, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG)	DISSOLVED SODIUM (NA) (MG/L)	
MAY 19...	1435	1020	7.8	23.0	220	97	62	16	120	
SEP 14...	1345	1120	7.6	28.0	230	110	61	18	140	
DATE		SODIUM ADSORPTION RATIO	DISSOLVED PHOSPHATE (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SiO2) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
MAY 19...	3.5	12	151	0	81	210	.4	4.1	580	
SEP 14...	4.0	11	138	0	88	220	.4	6.3	613	

08140700 Pecan Bayou near Cross Cut, Tex.

LOCATION.--Lat 31°58'21", long 99°07'48", Brown County, on right bank at downstream side of bridge on State Highway 279, 1.2 miles (1.9 km) downstream from Turkey Creek, and 4.2 miles (6.8 km) south of Cross Cut.

DRAINAGE AREA.--532 mi² (1,378 km²).

PERIOD OF RECORD.--April 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,453.35 ft (442.981 m) above mean sea level.

AVERAGE DISCHARGE.--8 years, 36.7 ft³/s (1.039 m³/s), 26,590 acre-ft/yr (32.8 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 269 ft³/s (7.62 m³/s) Sept. 20 (gage height, 3.51 ft or 1.070 m); no flow for many days.
Period of record: Maximum discharge, 7,330 ft³/s (208 m³/s) Oct. 19, 1971 (gage height, 19.68 ft or 5.998 m); no flow at times.
Flood in 1908 reached a stage of 26.5 ft (8.08 m) and was exceeded by a flood in 1900, from information by local resident.

REMARKS.--Records good. Several small diversions above station. At end of year, flow from 200 mi² (518 km²) above this station was partly controlled by 32 floodwater-retarding structures with a combined detention capacity of 39,200 acre-ft (48.3 hm³) below the flood-spillway crests.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0	.01	.35	.12	0	.02			0	2.8
2			0	.01	.35	.12	0	.01			0	.41
3			0	.01	.27	.12	0	.01			0	.05
4			0	.01	.04	.11	0	0			0	.01
5			0	.01	.05	.07	0	.04			0	0
6			0	.02	.03	.05	0	.07			0	0
7			0	.03	.03	.05	0	.02			0	0
8			0	.03	.03	.10	0	.02			0	0
9			0	.03	.03	.12	0	.01			0	0
10			0	.03	.03	.12	0	.01			0	0
11			0	.03	.03	.16	0	.01			0	0
12			0	.03	.03	.24	.01	.02			0	0
13			0	.03	.03	.24	.22	2.2			0	0
14			0	.17	.05	.24	.15	.09			0	0
15			0	.15	.05	.23	.56	.02			0	0
16			0	.08	.05	.15	14	.01			0	0
17			0	.05	.04	.12	13	0			0	0
18			0	.05	.15	.12	2.5	0			0	0
19			0	.06	.12	.12	.39	0			0	0
20			0	.10	.14	.11	.13	0			0	57
21			0	.12	.14	.04	.04	0			0	11
22			0	.12	.04	.05	.02	0			0	1.5
23			0	.12	.04	.05	.01	0			0	.32
24			.01	.12	.04	.05	.01	0			0	.10
25			.01	.22	.05	.05	.01	1.2			0	.04
26			.01	.24	.05	.07	.01	.51			0	.04
27			.01	.24	.05	.05	0	.10			0	.03
28			.01	.24	.05	.03	.01	.04			0	.02
29			.01	.24	.04	.03	.22	.01			0	.01
30			.01	.24	---	.01	.07	0			29	0
31		---	.01	.34	---	0	---	0	---		21	---
TOTAL	0	0	.08	3.18	2.66	3.18	31.42	4.42	0	0	50	73.33
MEAN	0	0	.003	.10	.042	.10	1.05	.14	0	0	1.61	2.44
MAX	0	0	.01	.34	.35	.24	14	2.2	0	0	29	57
MIN	0	0	0	.01	.03	0	0	0	0	0	0	0
AC-FT	0	0	.2	6.3	5.3	6.3	62	8.8	0	0	99	145

CAL YR 1975 TOTAL 11135.79 MEAN 30.5 MAX 999 MIN 0 AC-FT 22090
WTR YR 1976 TOTAL 166.27 MEAN .46 MAX 57 MIN 0 AC-FT 334

PEAK DISCHARGE (BASE, 1,000 FT³/S).--No peak above base.

COLORADO RIVER BASIN

08140800 Jim Ned Creek near Coleman, Tex.

LOCATION.--Lat 31°58'59", long 99°24'52", Coleman County, on right bank 77 ft (23 m) downstream from centerline of U.S. Highway 283, 1.4 miles (2.3 km) downstream from Turtle Bayou, 7.4 miles (11.9 km) downstream from Lake Coleman, and 10.8 miles (17.4 km) north of Coleman.

DRAINAGE AREA.--333 mi² (862 km²), of which 299 mi² (774 km²) is above Lake Coleman.

PERIOD OF RECORD.--October 1961 to September 1964 (miscellaneous measurements only), March 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,592.31 ft (485.336 m) above mean sea level.

AVERAGE DISCHARGE.--11 years, 25.2 ft³/s (0.714 m³/s), 18,260 acre-ft/yr (22.5 hm³/yr).

EXTREMES.--Current year: No flow during year.

Period of record: Maximum discharge, 5,020 ft³/s (142 m³/s) May 6, 1969 (gage height, 9.08 ft or 2.768 m); no flow at times each year.

REMARKS.--Records good. Since March 1966, when deliberate impoundment began, flow has been largely controlled by Lake Coleman, capacity, 40,000 acre-ft (49.3 hm³) at service spillway; elevation, 1,717.5 ft (523.49 m). During year, the city of Coleman diverted 706 acre-ft (0.870 hm³) from Lake Coleman for municipal use. At end of year, flow from 22.0 mi² (57.0 km²) above this station and below Lake Coleman was partly controlled by two floodwater-retarding structures with a combined capacity of 6,820 acre-ft (8.41 hm³) below flood-spillway crests, of which 260 acre-ft (0.321 hm³) is sediment-pool capacity. The capacity in these pools allocated to sediment storage will be used for conservation storage until eliminated by sedimentation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
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21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
MEAN	0	0	0	0	0	0	0	0	0	0	0	0
MAX	0	0	0	0	0	0	0	0	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	0	0	0	0	0	0
CAL YR 1975	TOTAL	6345.79	MEAN	17.4	MAX	446	MIN	0	AC-FT	12590		
WTR YR 1976	TOTAL	0.00	MEAN	0.000	MAX	0.00	MIN	0	AC-FT	0		

08141000 Hords Creek Lake near Valera, Tex.

LOCATION.--Lat 31°49'58", long 99°33'38", Coleman County, at outlet-works structure near right end of dam on Hords Creek, 5.6 miles (9.0 km) north of Valera, and 8.8 miles (14.2 km) west of Coleman.

DRAINAGE AREA.--48 mi² (124 km²), approximately.

PERIOD OF RECORD.--April 1948 to current year. Prior to October 1970, published as Hords Creek Reservoir.

Water quality: Chemical analyses: October 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level.

EXTREMES.--Current year: Maximum contents, 6,660 acre-ft (8.21 hm³) Oct. 1 (elevation, 1,896.90 ft or 578.175 m); minimum, 4,880 acre-ft (6.02 hm³) Sept. 30 (elevation, 1,892.28 ft or 576.767 m).

Period of record: Maximum contents, 12,790 acre-ft (15.8 hm³) May 1, 1956 (elevation, 1,906.86 ft or 581.211 m); minimum since first appreciable storage in June 1951, 2,910 acre-ft (3.59 hm³) Sept. 19, 1964 (elevation, 1,883.26 ft or 574.018 m).

REMARKS.--The lake is formed by a rolled earthfill dam 6,800 ft (2,070 m) long, including spillway. The deliberate impoundment of water began Apr. 7, 1948, and the dam was completed in June 1948. The emergency spillway is an excavated channel through natural ground, 500 ft (150 m) wide, located about 600 ft (180 m) from the right end of dam. The service spillway consists of three concrete conduits; two controlled by slide gates 5.0 by 6.0 ft (1.5 by 1.8 m), and the third an uncontrolled ogee spillway 4.0 ft (1.2 m) wide and 19.5 ft (5.9 m) high. The lake is operated for flood control and municipal water supply for the city of Coleman. The capacity table is based on a sedimentation survey made in 1968. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	1,939.0	-
Design flood.....	1,933.6	-
Crest of spillway.....	1,920.0	24,730
Crest of spillway (top of conservation pool).....	1,900.0	8,110
Lowest gated outlet (invert).....	1,856.0	3

COOPERATION.--Records furnished by Corps of Engineers and reviewed by Geological Survey.

Capacity table (elevation, in feet, and contents, in acre-feet)

1,892.0	4,790	1,896.0	6,280
1,894.0	5,490	1,898.0	7,150

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6650	6420	6270	6150	5980	5810	5580	5470	5240	4930	5370	5090
2	6630	6500	6270	6140	5970	5800	5570	5450	5230	4910	5350	5080
3	6620	6500	6260	6130	5970	5800	5560	5450	5220	4920	5340	5080
4	6610	6490	6260	6130	5960	5790	5550	5480	5210	4930	5330	5070
5	6600	6480	6260	6120	5960	5780	5550	5470	5190	4920	5320	5060
6	6590	6480	6250	6110	5960	5770	5550	5450	5190	4910	5310	5050
7	6580	6470	6240	6110	5950	5770	5540	5440	5180	4900	5300	5040
8	6570	6460	6240	6100	5950	5760	5540	5440	5170	4890	5280	5030
9	6560	6460	6240	6100	5940	5760	5530	5420	5160	4900	5270	5020
10	6550	6450	6230	6090	5940	5750	5520	5410	5150	4920	5260	5010
11	6540	6440	6230	6090	5940	5750	5510	5410	5130	5020	5240	5000
12	6540	6420	6220	6090	5940	5750	5520	5410	5130	5030	5230	4990
13	6520	6410	6220	6080	5930	5750	5520	5400	5110	5040	5210	4980
14	6510	6400	6220	6070	5930	5740	5510	5390	5100	5050	5200	4970
15	6510	6390	6220	6070	5920	5730	5540	5380	5010	5070	5190	4960
16	6510	6390	6210	6060	5920	5710	5540	5370	5070	5070	5170	4950
17	6500	6380	6190	6060	5920	5700	5540	5360	5090	5440	5160	4950
18	6480	6380	6190	6050	5910	5700	5530	5350	5080	5480	5150	4940
19	6470	6370	6180	6050	5900	5690	5540	5350	5070	5470	5140	4950
20	6460	6360	6170	6060	5890	5680	5520	5340	5060	5460	5120	4960
21	6450	6350	6170	6040	5890	5670	5510	5330	5050	5450	5110	4950
22	6480	6340	6160	6040	5910	5660	5510	5320	5030	5460	5100	4940
23	6480	6340	6170	6030	5870	5660	5510	5320	5020	5450	5090	4930
24	6470	6320	6180	6010	5850	5660	5500	5320	5010	5450	5060	4920
25	6460	6310	6180	6020	5840	5650	5490	5310	5000	5370	5070	4920
26	6450	6300	6170	6020	5830	5650	5480	5300	4990	5440	5060	4910
27	6450	6290	6170	6010	5830	5640	5470	5290	4980	5420	5050	4900
28	6440	6290	6170	6000	5820	5630	5480	5280	4960	5410	5050	4890
29	6430	6290	6160	6000	5810	5610	5480	5270	4950	5400	5050	4890
30	6420	6280	6150	5990	---	5600	5480	5260	4940	5390	5080	4880
31	6420	---	6150	5980	---	5580	---	5250	---	5370	5080	---
(†)	1896.34	1896.01	1895.69	1895.28	1894.85	1894.25	1893.96	1893.33	1892.46	1893.67	1892.87	1892.28
(*)	-240	-140	-130	-170	-170	-230	-100	-230	-430	+30	-290	-200
(††)	36	25	22	31	35	34	42	44	55	23	48	30
MAX	6650	6500	6270	6150	5980	5810	5580	5480	5240	5480	5370	5090
MIN	6420	6280	6150	5980	5810	5580	5470	5250	4940	4890	5050	4880

CAL YR 1975.....

* -2140

†† 466

MAX 8720

MIN 6150

WTR YR 1976.....

* -1780

†† 425

MAX 6650

MIN 4880

† Elevation, in feet, at end of month.

* Change in contents, in acre-feet.

†† Diversions, in acre-feet, for municipal use by city of Coleman.

COLORADO RIVER BASIN

08141000 Hords Creek Lake near Valera, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG)	DISSOLVED SODIUM (NA) (MG/L)
MAY 17...	1300	1240	8.2	22.0	350	200	79	36	120
DATE	SODIUM ADSORPTION RATIO	DISSOLVED PHOSPHATE SILICA (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
MAY 17...	2.8	6.0	178	0	56	270	.3	5.4	660

08141500 Hords Creek near Valera, Tex.

LOCATION.--Lat 31°50'03", long 99°32'04", Coleman County, on left bank 2,500 ft (762 m) downstream from Farm Road 503, 1.6 miles (2.6 km) downstream from Hords Creek Dam, 5.7 miles (9.2 km) north of Valera, 7.0 miles (11.3 km) west of Coleman, and at mile 21.8 (35.1 km).

DRAINAGE AREA.--53 mi² (137 km²), approximately, of which 48 mi² (124 km²) is above Hords Creek Dam.

PERIOD OF RECORD.--April 1947 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,819.88 ft (554.699 m) above mean sea level (Corps of Engineers bench mark).

AVERAGE DISCHARGE.--29 years, 1.84 ft³/s (0.0521 m³/s), 1,330 acre-ft/yr (1.64 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 101 ft³/s (2.86 m³/s) July 17 (gage height, 3.43 ft or 1.045 m); no flow for many days.

Period of record: Maximum discharge, 3,860 ft³/s (109 m³/s) Apr. 30, 1956 (gage height, 14.73 ft or 4.490 m), from rating curve extended above 1,900 ft³/s (53.8 m³/s); no flow at times each year.

Maximum stage since 1900, 23.0 ft (7.01 m) July 3, 1932, from information by local residents (discharge not determined). Flood in July or September 1900 reached a stage 3.7 ft (1.13 m) higher than that of July 1932, 12 miles (19 km) downstream from station, from information by local residents.

REMARKS.--Records good. Flow regulated by Hords Creek Lake (station 08141000).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.20	.18	.17	.23	.13	.08	.05	.16		0	.12	.76
2	.20	.25	.17	.19	.13	.09	.05	.04		0	.10	.54
3	.23	.70	.17	.17	.14	.08	.05	.07		0	.10	.33
4	.23	.34	.20	.17	.12	.07	.05	.06		.06	.08	.28
5	.20	.27	.22	.17	.17	.07	.05	.21		0	.09	.18
6	.17	.23	.20	.17	.16	.06	.08	.12		0	.09	.15
7	.14	.20	.18	.23	.12	.06	.10	.04		0	.09	.14
8	.13	.20	.20	.26	.14	.08	.12	.04		0	.08	.14
9	.14	.20	.20	.34	.14	.07	.12	.04		0	.08	.12
10	.14	.14	.20	.21	.15	.06	.12	.04		0	.06	.14
11	.14	.20	.20	.16	.14	.05	.12	.04		4.2	.05	.12
12	.13	.17	.20	.16	.12	.06	.12	.03		1.7	.02	.10
13	.13	.17	.22	.16	.12	.05	.17	.04		.68	.02	.08
14	.12	.17	.20	.17	.12	.05	.13	.03		.68	.01	.08
15	.13	.17	.18	.17	.11	.05	.23	.02		2.0	.01	.06
16	.24	.17	.18	.30	.11	.06	.51	.03		1.6	.01	.05
17	.41	.17	.17	.28	.10	.04	.21	.03		11	.01	.05
18	.16	.17	.17	.18	.11	.07	.13	.04		2.4	.01	.05
19	.14	.20	.17	.16	.11	.16	.15	.04		1.4	.01	.36
20	.14	.17	.17	.14	.09	.05	.22	.03		.79	.01	.50
21	.14	.17	.18	.14	.07	.06	.14	.03		.49	.02	.32
22	.35	.17	.20	.13	.09	.06	.11	.02		.49	.02	.13
23	.50	.17	.30	.12	.08	.06	.10	.02		.61	.02	.09
24	.26	.17	.56	.12	.05	.11	.01	.01		.43	.03	.07
25	.17	.19	.44	.13	.05	.11	.11	.01		.38	.03	.06
26	.17	.17	.35	.12	.10	.07	.13	.01		.32	.03	.06
27	.17	.19	.30	.12	.09	.06	.08			.28	.03	.07
28	.17	.20	.33	.14	.09	.05	.34	.02		.24	.04	.10
29	.14	.22	.31	.14	.09	.05	.43	.01		.20	.20	.11
30	.14	.19	.28	.13	---	.34	.37			.14	.51	.09
31	.16	---	.24	.12	---	.34	---		---	.12	.93	---
TOTAL	9.17	8.61	7.30	5.43	3.33	2.31	5.20	1.33	0	30.21	2.91	5.33
MEAN	.26	.29	.24	.18	.11	.065	.17	.043	0	.97	.094	.18
MAX	.24	.25	.56	.34	.10	.11	.33	.21	0	11	.93	.76
MIN	.12	.17	.17	.12	.07	.04	.05	0	0	0	.01	.05
AC-FT	16	17	14	11	6.6	4.9	19	2.6	0	60	5.8	11

CAL YR 1975 TOTAL 1118.86 MEAN .27 MAX 119 MIN .01 AC-FT 2220
 YR 1976 TOTAL 79.73 MEAN .22 MAX 11 MIN .0 AC-FT 155

COLORADO RIVER BASIN

08142500 Brown County Water Improvement District No. 1 canal near Brownwood, Tex.

LOCATION.--Lat 31°49'43", long 98°59'53", Brown County, on right bank 100 ft (30 m) upstream from bridge on Farm Road 2125, 6,000 ft (1,830 m) downstream from Brownwood Dam, and 7 miles (11 km) north of Brownwood.

PERIOD OF RECORD.--March 1950 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,403.96 ft (427.927 m) above mean sea level.

AVERAGE DISCHARGE.--26 years, 26.6 ft³/s (0.753 m³/s), 19,270 acre-ft/yr (23.8 hm³/yr).

EXTREMES.--Period of record: Maximum daily discharge, 77 ft³/s (2.18 m³/s) July 17, 1957; minimum daily, 0.40 ft³/s (0.011 m³/s) Feb. 10, 1955, Apr. 2, 1970.

REMARKS.--Records good. Water is released into the canal from Lake Brownwood (station 08143000) at the dam on Pecan Bayou. Diversions began Apr. 9, 1939. A small amount of water is diverted from the canal upstream from the gage for domestic use. Records furnished by Brown County Water Improvement District No. 1 show that during the current year 1,150 acre-ft (1.42 hm³) was diverted from canal upstream from gage for irrigation, and of the total flow of canal passing gage, 7,630 acre-ft (9.41 hm³) was used for municipal and industrial supply and 3,650 acre-ft (4.50 hm³) was used for irrigation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	14	18	15	7.5	43	47	21	43	59	28	24
2	34	14	15	14	7.7	44	44	21	42	59	28	18
3	34	13	16	12	11	47	43	21	43	59	28	16
4	33	13	21	12	15	47	46	20	43	56	31	13
5	30	13	26	16	15	44	39	20	43	51	35	12
6	21	14	30	22	21	38	32	20	44	51	40	11
7	24	14	30	18	27	36	37	19	44	47	44	12
8	29	14	30	11	19	32	35	19	44	39	39	12
9	29	14	28	11	39	31	36	19	44	32	41	15
10	30	14	25	11	42	30	38	10	44	25	45	18
11	30	14	24	11	4.9	29	33	19	53	25	50	18
12	31	14	36	11	19	27	38	18	56	22	53	18
13	35	15	34	16	63	27	37	18	53	20	54	18
14	41	15	24	16	58	28	31	18	53	20	54	18
15	36	15	29	16	42	32	27	18	58	20	52	18
16	35	16	29	17	41	28	27	16	62	20	53	24
17	36	16	28	23	47	25	27	4.1	60	20	54	34
18	35	16	25	26	58	25	27	5.0	59	20	54	34
19	35	16	25	25	55	24	26	14	62	20	54	35
20	37	16	20	24	45	23	25	30	58	8.7	53	33
21	33	16	16	20	45	19	25	22	55	1.6	49	21
22	29	16	20	16	44	23	25	16	53	13	47	14
23	30	16	26	16	40	34	25	16	54	24	50	14
24	24	13	23	22	40	34	25	24	56	28	54	16
25	23	13	20	22	44	29	24	29	52	28	53	19
26	21	18	20	19	48	30	24	29	51	23	53	19
27	18	18	20	12	48	31	23	33	48	20	53	17
28	14	18	19	11	47	31	23	34	51	20	55	16
29	14	18	17	8.1	39	37	22	41	54	22	53	19
30	14	18	17	8.1	---	41	22	35	59	25	43	19
31	14	---	16	7.6	---	42	---	36	---	28	35	---
TOTAL	887	454	731	488.8	1032.1	1011	933	673.1	1545	906.3	1435	575
MEAN	28.6	15.1	23.6	15.8	35.6	32.6	31.1	21.9	51.5	29.2	46.3	19.2
MAX	41	18	36	26	63	47	47	41	62	59	55	35
MIN	14	13	15	7.6	4.9	19	22	4.1	42	1.6	28	11
AC-FT	1760	901	1450	970	2050	2010	1850	1350	3060	1800	2850	1140
WTR YR 1975	TOTAL	19520.6	MEAN	26.1	MAX	56	MIN	1.5	AC-FT	18880		
CAL YR 1976	TOTAL	10676.3	MEAN	29.2	MAX	63	MIN	1.6	AC-FT	21180		

08143000 Lake Brownwood near Brownwood, Tex.

LOCATION.--Lat 31°50'13", long 99°00'13", Brown County, at outlet structure for irrigation canal just upstream from right end of dam on Pecan Bayou, 0.2 mile (0.4 km) downstream from Jim Ned Creek, 8 miles (13 km) north of Brownwood, and at mile 57.1 (91.9 km).

DRAINAGE AREA.--1,535 mi² (3,976 km²).

PERIOD OF RECORD.--Contents: July 1933 to June 1934, April 1935 to September 1940, November 1944 to current year. Prior to October 1970, published as Brownwood Reservoir.

Water quality: Chemical analyses: October 1969 to current year.

GAGE.--Nonrecording gage read once daily. Datum of gage is 0.50 ft (0.152 m) below mean sea level. Prior to November 1944, nonrecording gages or water-stage recorder at various sites at dam at same datum.

EXTREMES (at 1800).--Current year: Maximum contents observed, 126,600 acre-ft (156 hm³) Oct. 12 (gage height, 1,422.7 ft or 433.64 m); minimum, 89,830 acre-ft (111 hm³) Sept. 29, 30 (gage height, 1,416.5 ft or 431.75 m).
Period of record: Maximum contents, 192,300 acre-ft (237 hm³) May 2, 1956 (gage height, 1,431.4 ft or 436.29 m); minimum, 11,900 acre-ft (14.7 hm³) July 15, 1934 (gage height, 1,389.5 ft or 423.52 m).

REMARKS.--The lake is formed by a rolled earthfill dam, 1,580 ft (482 m) long. The dam was completed in 1933 and deliberate impoundment began in July 1933. Capacity table is based on 1959 survey. The uncontrolled spillway is a broad-crested weir 479 ft (146 m) long located 800 ft (240 m) to the left of dam. The controlled spillway consists of two 12-foot (4-meter) horseshoe-shaped concrete conduits. Water is released into Brown County canal through a 5-foot (2-meter) circular conduit that is controlled by a slide gate in a service structure located near the right end of dam. Water is used for irrigation and for municipal and industrial supply by the city of Brownwood (see station 08142500). At end of year, flow from 352 mi² (912 km²) above this station and below Lake Coleman (conservation capacity, 40,000 acre-ft or 49.3 hm³) was partly controlled by 58 floodwater-retarding structures with a combined capacity of 78,390 acre-ft (96.7 hm³) below the flood-spillway crests, of which 72,880 acre-ft (89.9 hm³) is conservation-pool capacity. One structure was built during the current year and has a capacity below flood-spillway crests of 1,120 acre-ft (1.38 hm³), of which 1,030 acre-ft (1.27 hm³) is conservation-pool capacity. The capacity in these pools allocated to sediment storage will be used for conservation storage until eliminated by sedimentation. Data regarding the dam and lake are given in the following table:

	Gage height (feet)	Capacity (acre-feet)
Top of dam.....	1,450.0	-
Crest of spillway.....	1,425.1	143,400
Lowest gated outlet to irrigation canal (invert).....	1,406.0	46,510
Lowest gated outlet (invert).....	1,330.0	-

COOPERATION.--Record of daily gage heights furnished by Brown County Water Improvement District No. 1. Capacity table furnished by Corps of Engineers and Soil Conservation Service.

REVISIONS (WATER YEARS).--WSP 1212: 1948-50.

Capacity table (gage height, in feet, and contents, in acre-feet)

1,416.0	87,230
1,420.0	109,700
1,423.0	128,700

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
INSTANTANEOUS OBSERVATIONS AT 1800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1266.0	1217.0	1199.0	1169.0	1145.0	1115.0	1079.0	1073.0	1061.0	9953.0	9841.0	9297.0
2	1266.0	1217.0	1199.0	1169.0	1145.0	1115.0	1079.0	1073.0	1055.0	9953.0	9841.0	9297.0
3	1259.0	1224.0	1193.0	1163.0	1145.0	1115.0	1073.0	1073.0	1055.0	9897.0	9841.0	9297.0
4	1259.0	1224.0	1193.0	1163.0	1145.0	1115.0	1073.0	1073.0	1055.0	9897.0	9841.0	9297.0
5	1259.0	1224.0	1193.0	1163.0	1145.0	1115.0	1073.0	1073.0	1049.0	9841.0	9785.0	9297.0
6	1252.0	1224.0	1170.0	1163.0	1145.0	1109.0	1073.0	1073.0	1049.0	9841.0	9730.0	9297.0
7	1252.0	1224.0	1170.0	1163.0	1145.0	1109.0	1073.0	1073.0	1049.0	9841.0	9730.0	9297.0
8	1252.0	1224.0	1170.0	1163.0	1145.0	1109.0	1073.0	1073.0	1043.0	9841.0	9730.0	9297.0
9	1252.0	1217.0	1170.0	1163.0	1145.0	1109.0	1073.0	1073.0	1043.0	9841.0	9675.0	9243.0
10	1245.0	1217.0	1170.0	1163.0	1145.0	1109.0	1073.0	1073.0	1043.0	9897.0	9675.0	9243.0
11	1245.0	1217.0	1170.0	1163.0	1145.0	1109.0	1073.0	1073.0	1043.0	9953.0	9621.0	9243.0
12	1245.0	1217.0	1170.0	1163.0	1145.0	1109.0	1073.0	1073.0	1037.0	9953.0	9621.0	9191.0
13	1245.0	1211.0	1170.0	1163.0	1145.0	1109.0	1073.0	1073.0	1037.0	9953.0	9621.0	9191.0
14	1238.0	1211.0	1161.0	1163.0	1145.0	1109.0	1073.0	1073.0	1037.0	1001.0	9567.0	9191.0
15	1238.0	1211.0	1161.0	1163.0	1145.0	1109.0	1073.0	1073.0	1031.0	1001.0	9513.0	9191.0
16	1238.0	1211.0	1161.0	1163.0	1145.0	1109.0	1073.0	1073.0	1031.0	1001.0	9513.0	9139.0
17	1231.0	1211.0	1161.0	1163.0	1145.0	1109.0	1073.0	1073.0	1031.0	1001.0	9459.0	9139.0
18	1231.0	1211.0	1161.0	1163.0	1145.0	1109.0	1073.0	1073.0	1025.0	1001.0	9459.0	9139.0
19	1231.0	1211.0	1161.0	1163.0	1145.0	1109.0	1073.0	1073.0	1025.0	1001.0	9459.0	9139.0
20	1224.0	1205.0	1175.0	1163.0	1145.0	1109.0	1073.0	1073.0	1025.0	1001.0	9405.0	9139.0
21	1224.0	1205.0	1175.0	1163.0	1145.0	1109.0	1073.0	1073.0	1019.0	1001.0	9405.0	9087.0
22	1224.0	1205.0	1175.0	1163.0	1145.0	1109.0	1073.0	1073.0	1019.0	1001.0	9351.0	9087.0
23	1224.0	1205.0	1175.0	1163.0	1145.0	1109.0	1073.0	1073.0	1019.0	9953.0	9351.0	9087.0
24	1224.0	1205.0	1175.0	1163.0	1145.0	1109.0	1073.0	1073.0	1019.0	9953.0	9297.0	9087.0
25	1224.0	1205.0	1175.0	1163.0	1145.0	1109.0	1073.0	1073.0	1019.0	9953.0	9297.0	9035.0
26	1224.0	1205.0	1175.0	1163.0	1145.0	1109.0	1073.0	1073.0	1007.0	9953.0	9243.0	9035.0
27	1224.0	1199.0	1175.0	1163.0	1145.0	1109.0	1073.0	1073.0	1007.0	9953.0	9243.0	9035.0
28	1224.0	1199.0	1175.0	1163.0	1145.0	1109.0	1073.0	1073.0	1001.0	9897.0	9243.0	9035.0
29	1217.0	1199.0	1169.0	1163.0	1145.0	1109.0	1073.0	1073.0	1001.0	9897.0	9243.0	8983.0
30	1217.0	1199.0	1169.0	1163.0	1145.0	1109.0	1073.0	1073.0	9953.0	9897.0	9297.0	8983.0
31	1217.0	---	1169.0	1163.0	1145.0	1109.0	1073.0	1073.0	9953.0	9897.0	9297.0	---
(+)	1422.0	1421.7	1421.2	1420.8	1420.4	1419.7	1419.6	1419.4	1418.3	1418.2	1417.1	1416.5
(+)	-4900	-1800	-3000	-2400	-2400	-4200	-600	-1200	-6570	-560	-6000	-3140
MAX	1266.0	1224.0	1199.0	1169.0	1145.0	1115.0	1079.0	1073.0	1061.0	1001.0	9841.0	9297.0
MIN	1217.0	1199.0	1169.0	1145.0	1121.0	1079.0	1067.0	1061.0	9953.0	9841.0	9243.0	8983.0
CAL YR 1975.....	* -27900			MAX 151800			MIN 116900					
WTR YR 1976.....	* -36770			MAX 126600			MIN 89830					

† Gage height, in feet, at end of month.

* Change in contents, in acre-feet.

COLORADO RIVER BASIN

08143000 Lake Brownwood near Brownwood, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (MG/L)	DISSOLVED MAGNESIUM (MG/L)	DISSOLVED SODIUM (NA) (MG/L)
MAY 19...	1100	768	8.3	21.0	230	96	67	15	63
DATE	SODIUM ADSORPTION RATIO	DISSOLVED PHOSPHATE (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SiO2) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
MAY 19...	1.8	6.0	162	0	53	130	.3	7.5	422

COLORADO RIVER BASIN

123

08143500 Pecan Bayou at Brownwood, Tex.

LOCATION.--Lat 31°43'54", long 98°58'25", Brown County, on right bank at Brownwood, 502 ft (153 m) upstream from city dam, 6.3 miles (10.1 km) downstream from Salt Creek, 10 miles (16 km) downstream from Lake Brownwood, and at mile 47.5 (76.4 km).

DRAINAGE AREA.--1,614 mi² (4,180 km²).

PERIOD OF RECORD.--May 1917 to June 1918, October 1923 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,318.58 ft (401.903 m) above mean sea level. See WSP 1922 for history of changes prior to Apr. 2, 1962.

AVERAGE DISCHARGE.--7 years (1924-28, 1929-32) prior to completion of Lake Brownwood, 251 ft³/s (7.108 m³/s), 181,800 acre-ft/yr (224 hm³/yr); 44 years (1932-76) regulated, 128 ft³/s (3.625 m³/s), 92,740 acre-ft/yr (114 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 419 ft³/s (11.9 m³/s) Apr. 20 (gage height, 1.85 ft or 0.564 m); minimum, 0.21 ft³/s (0.006 m³/s) June 10-12.

Period of record: Maximum discharge, 31,600 ft³/s (895 m³/s) Oct. 14, 1930 (gage height, 16.92 ft or 5.157 m); no flow at times. Maximum stage, 21.7 ft (6.61 m) in September 1900, from information by Gulf, Colorado, and Santa Fe Railway Co. Flood of July 3, 1932, probably the greatest, reached a discharge of about 235,000 ft³/s (6,660 m³/s) as it entered Lake Brownwood (computed from rate of change of contents in lake; data furnished by engineers of Brown County Water Improvement District No. 1).

REMARKS.--Records good except those for period of no gage-height record, which are fair. Flow regulated by Lake Brownwood (station 08143000). Brown County Water Improvement District No. 1 canal (station 08142500) diverts water from Lake Brownwood 10 miles (16 km) upstream. At end of year, flow from 20.8 mi² (53.9 km²) above this station and below Lake Brownwood was partly controlled by nine floodwater-retarding structures with a combined detention capacity of 4,720 acre-ft (5.82 hm³).

REVISIONS (WATER YEARS).--WSP 1312: 1928. WSP 1512: 1924(M), 1926-27, 1928(M), 1930-32, 1935(M), 1936, 1941.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	4.7	1.8	4.2	3.3	2.1	4.6	5.4	4.4	.36	1.5	6.0
2	3.3	8.5	1.5	3.5	3.4	2.8	3.7	4.2	2.1	.29	1.6	4.0
3	3.1	12	1.1	3.3	3.4	1.5	1.6	3.7	.94	.27	2.4	3.0
4	3.7	6.9	.95	3.5	2.1	.80	1.1	3.3	.58	12	2.2	2.5
5	4.0	5.0	.94	3.6	1.0	.76	.98	6.3	.51	10	2.0	2.2
6	4.2	4.8	1.5	4.0	1.7	1.4	1.1	14	.43	5.3	1.9	2.0
7	3.9	5.1	1.7	4.5	3.0	2.8	1.3	7.3	.40	3.6	1.8	1.8
8	3.5	4.9	3.8	3.8	3.3	4.4	2.2	4.2	.33	3.0	1.8	1.7
9	3.3	4.9	4.3	4.0	3.5	5.3	1.7	4.3	.30	6.4	1.7	1.6
10	3.1	4.8	3.9	4.6	3.7	4.3	1.0	4.3	.27	33	1.6	1.5
11	3.4	4.4	3.2	5.2	4.1	4.3	.72	4.2	.23	26	1.6	1.5
12	3.5	5.1	2.4	5.3	4.2	7.1	1.4	4.5	.29	12	1.5	1.5
13	3.2	4.2	2.8	5.1	4.2	5.8	12	10	.51	7.4	1.4	2.0
14	1.9	3.7	3.5	4.6	4.0	5.0	7.3	5.5	.53	6.1	1.3	2.5
15	1.3	3.9	4.0	4.4	4.5	4.8	5.5	4.2	.46	7.2	1.2	2.9
16	1.2	4.5	3.4	4.8	4.9	4.4	33	3.7	.79	6.0	1.1	3.1
17	1.6	4.7	3.8	4.6	3.0	3.8	9.3	3.4	1.3	5.2	1.0	3.3
18	1.3	5.0	4.1	2.9	1.7	3.5	6.5	3.7	2.1	5.2	1.0	3.3
19	1.1	5.4	4.2	2.4	.84	3.7	24	3.5	1.7	5.0	2.0	3.5
20	1.0	5.9	3.9	2.1	1.0	4.2	112	3.5	1.4	4.8	3.0	4.9
21	.92	5.9	3.7	1.4	3.0	4.1	9.4	3.8	.93	5.3	2.5	7.4
22	1.5	5.2	3.5	.96	3.5	3.6	5.7	3.0	.94	5.4	2.0	5.1
23	2.5	4.9	2.1	1.0	3.5	3.2	5.3	2.6	.67	4.7	1.8	3.7
24	1.8	5.3	2.5	3.4	3.0	4.0	6.3	2.5	.51	4.1	1.6	3.3
25	1.5	5.1	5.3	4.6	1.7	4.3	4.9	4.4	.51	3.7	1.4	3.1
26	1.8	6.1	4.9	4.1	1.3	4.4	3.5	6.9	.45	3.8	1.2	2.9
27	3.0	5.7	4.5	3.6	2.5	3.6	3.3	5.4	.36	3.9	1.0	3.2
28	3.6	5.7	4.7	3.7	1.7	3.6	3.6	3.8	.35	3.3	1.0	2.9
29	3.2	4.7	4.8	3.7	1.8	3.9	7.6	2.6	.33	3.2	1.0	3.2
30	2.9	2.5	4.8	3.5	---	3.5	7.8	2.2	.36	3.1	15	3.4
31	4.6	---	4.8	3.8	---	4.4	---	3.1	---	2.0	10	---
TOTAL	22.62	159.5	102.39	114.16	82.84	115.36	288.40	144.5	24.98	201.62	72.1	93.0
MEAN	2.67	5.32	3.30	3.68	2.86	3.72	9.61	4.66	.83	6.50	2.33	3.10
MAX	4.6	12	5.3	5.3	4.9	7.1	112	14	4.4	33	15	7.4
MIN	.92	2.5	.94	.96	.84	.76	.72	2.2	.23	.27	1.0	1.5
AC-FT	164	316	203	226	164	229	572	287	50	400	143	184

CAL YR 1975 TOTAL 29633.95 MEAN 81.2 MAX 1580 MIN .05 AC-FT 58780
WTR YR 1976 TOTAL 1481.47 MEAN 4.05 MAX 112 MIN .23 AC-FT 2940

NOTE.--No gage-height record Aug. 4 to Sept. 14.

COLORADO RIVER BASIN

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08143600 Pecan Bayou near Mullin, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPF- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)
OCT.										
08...	0955	14	1000	7.7	19.0	250	95	71	17	110
NOV.										
01...	0930	11	1610	8.2	18.0	350	150	100	25	200
DEC.										
01...	1205	13	1590	8.3	9.0	380	170	110	25	190
JAN.										
06...	0915	13	1420	8.1	7.0	330	140	93	23	170
FEB.										
02...	1900	11	1660	8.1	8.5	390	180	110	28	200
MAR.										
02...	1905	14	1640	8.0	21.0	330	190	90	26	200
APR.										
06...	0950	8.0	1380	8.2	18.0	320	120	91	23	160
MAY										
01...	1630	32	982	7.9	21.0	280	98	82	18	80
JUNE										
21...	1640	25	1410	7.8	27.0	290	99	85	20	160
JULY										
01...	1800	3.6	1610	8.0	29.0	330	130	94	22	200
AUG.										
02...	1700	9.4	1090	8.0	31.5	270	84	77	19	120
SEP.										
13...	1645	9.2	924	7.8	27.5	260	80	76	18	77

DATE	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
OCT.									
08...	3.0	8.2	186	0	72	170	.4	6.7	547
NOV.									
01...	4.6	12	253	0	130	320	.6	8.4	921
DEC.									
01...	4.3	12	252	0	130	320	.5	7.4	919
JAN.									
06...	4.1	7.5	231	0	110	270	.5	6.0	794
FEB.									
02...	4.4	9.0	257	0	140	320	.6	.9	935
MAR.									
02...	4.8	11	174	0	150	340	.4	3.2	906
APR.									
06...	3.9	10	250	0	100	260	.5	2.6	770
MAY									
01...	2.1	6.5	220	0	82	150	.2	11	538
JUNE									
21...	4.1	10	239	0	91	280	.5	9.3	774
JULY									
01...	4.8	12	233	0	110	330	.5	5.1	888
AUG.									
02...	3.2	10	228	0	72	190	.4	10	611
SEP.									
13...	2.1	8.0	224	0	81	130	.3	12	513

COLORADO RIVER BASIN

08143600 Pecan Bayou near Mullin, Tex.--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

MONTH	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA+MG) (MG/L)
OCT. 1975.....	309.2	1330	740	616	240	204	110	88	310
NOV. 1975.....	468	1340	740	941	240	308	110	136	310
DEC. 1975.....	454.7	1670	930	1140	340	422	140	168	350
JAN. 1976.....	402.4	1480	830	899	290	313	120	131	330
FEB. 1976.....	336.9	1760	990	898	370	341	150	132	370
MAR. 1976.....	507.3	1540	860	1180	310	419	130	173	340
APR. 1976.....	1213.5	1140	630	2070	200	651	88	288	290
MAY 1976.....	1085	795	440	1280	120	347	57	167	220
JUNE 1976.....	446	1350	750	905	250	305	110	130	320
JULY 1976.....	1914.3	667	370	1920	94	486	45	233	190
AUG. 1976.....	227.1	1470	820	502	290	175	120	74	330
SEPT 1976.....	1087.8	1040	580	1690	170	511	80	235	280
TOTAL	8454.18	**	**	14000	**	4480	**	1950	**
WTD.AVG.	23.16	1110	620	**	200	**	87	**	290

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1160	1610	1600	1540	1610	1680	1300	974	831	1610	1100	1760
2	1050	1400	1610	1560	1650	1660	1280	1000	871	1610	1090	1200
3	937	1330	1630	1520	1690	1590	1290	1030	860	1600	1060	900
4	980	1350	1660	1500	1730	1580	1320	1100	1100	1560	1030	910
5	1020	1230	1690	1420	1740	1570	1380	1150	1230	1500	1070	940
6	1050	1230	1730	1420	1740	1560	1400	766	1400	1100	1100	960
7	1020	1260	1730	1500	1740	1580	1490	844	1510	1110	1140	996
8	1000	1280	1720	1650	1730	1600	1580	900	1590	1170	1200	971
9	1010	1300	1720	1650	1730	1500	1620	980	1610	1220	1260	951
10	1090	1330	1700	1200	1730	1460	1670	1060	1560	757	1300	940
11	1160	1340	1690	1250	1750	1520	1700	1130	1510	695	1340	931
12	1180	1420	1690	1300	1780	1570	1750	1190	1450	616	1340	920
13	1200	1460	1690	1330	1800	1540	1750	957	1400	611	1390	924
14	1230	1480	1700	1370	1750	1540	1860	600	1370	547	1390	913
15	1240	1500	1710	1400	1700	1530	1280	491	1370	550	1410	900
16	1240	1520	1690	1380	1710	1540	1120	500	1390	283	1430	882
17	1260	1500	1690	1400	1750	1570	960	519	1340	280	1470	878
18	1270	1460	1710	1400	1780	1620	987	525	1410	275	1490	880
19	1290	1340	1710	1440	1770	1780	1000	547	1550	276	1510	890
20	1300	1140	1720	1460	1740	1690	688	561	1200	470	1530	1020
21	1310	1070	1690	1490	1730	1600	1020	565	1410	818	1580	849
22	1330	1040	1650	1510	1750	1570	919	560	1510	898	1600	840
23	1330	1020	1630	1550	1770	1570	962	562	1560	920	1620	860
24	1380	1140	1720	1610	1820	1490	1060	581	1580	1030	1710	888
25	1400	1260	1740	1630	1870	1480	1050	618	1660	1050	1730	996
26	1520	1340	1770	1650	1880	1470	1030	697	1660	674	1730	1030
27	1650	1400	1680	1680	1870	1450	1000	637	1640	898	1750	1130
28	1600	1440	1600	1680	1880	1400	1020	791	1660	930	1750	1020
29	1580	1500	1550	1680	1740	1370	987	978	1590	983	1750	560
30	1600	1580	1510	1610	---	1310	970	953	1590	1070	1620	504
31	1650	---	1530	1580	---	1310	---	770	---	1120	1760	---
MONTH	1260	1340	1670	1500	1760	1540	1250	798	1410	911	1430	945

COLORADO RIVER BASIN

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08143600 Pecan Bayou near Mullin, Tex.--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23.0	18.0	9.0	---	---	---	---	21.0	23.0	29.0	---	25.5
2	19.0	---	10.0	6.0	8.5	21.0	19.5	---	28.0	27.0	30.0	25.0
3	18.5	17.0	10.0	5.5	9.0	20.0	20.0	22.0	28.0	---	28.5	---
4	---	16.5	---	---	11.0	---	---	21.0	27.0	---	28.0	---
5	---	17.0	13.0	5.0	8.0	---	18.0	20.5	27.0	28.5	---	---
6	20.0	19.0	11.0	7.0	6.5	14.5	---	21.0	---	28.0	---	---
7	20.0	17.0	11.0	---	8.0	---	20.0	14.5	26.0	27.0	31.0	29.0
8	20.0	18.5	12.0	4.0	---	---	20.5	---	27.0	---	---	26.0
9	21.5	---	12.0	4.5	11.0	15.0	21.0	---	26.0	26.0	31.0	26.0
10	22.0	17.0	---	---	12.0	16.0	20.5	21.0	27.0	24.5	---	---
11	23.0	17.0	12.0	---	12.0	15.0	---	24.0	27.0	24.0	28.5	26.5
12	---	13.0	13.0	7.0	13.5	18.0	23.0	25.0	28.0	24.0	29.5	26.0
13	23.0	---	13.0	7.0	13.0	13.0	22.0	23.0	---	25.0	29.5	28.0
14	23.0	---	---	---	---	---	23.0	---	28.0	29.5	28.0	26.0
15	22.0	---	11.5	8.0	---	16.0	21.5	22.0	29.5	---	---	---
16	22.0	---	11.0	6.0	13.0	14.0	19.0	---	27.0	24.5	---	28.0
17	18.0	14.0	9.5	7.0	---	14.0	---	23.0	26.5	---	29.0	27.0
18	18.0	16.0	8.0	---	15.0	---	20.0	---	28.0	---	29.0	---
19	---	15.0	---	8.0	16.0	20.0	---	21.0	27.0	25.0	29.0	---
20	16.0	13.0	8.5	8.5	17.0	19.5	20.0	23.0	---	---	27.0	25.0
21	20.0	12.0	---	8.0	13.0	---	19.0	21.0	---	28.0	28.0	24.0
22	19.0	---	7.0	8.0	---	18.0	20.0	---	27.0	28.0	---	---
23	20.5	10.0	7.0	9.0	13.0	18.0	22.0	25.0	27.0	---	28.0	---
24	---	10.0	6.5	5.0	13.0	18.0	23.5	26.5	---	28.5	26.0	23.0
25	17.0	9.0	---	---	15.0	---	---	25.5	26.0	---	28.5	25.0
26	---	7.0	7.0	7.0	14.0	---	21.5	21.0	27.0	28.0	27.0	---
27	16.0	---	---	3.0	---	19.0	22.0	22.0	---	30.0	26.5	25.0
28	---	---	---	8.0	---	---	---	25.0	28.0	---	27.0	23.0
29	18.0	---	6.5	8.5	16.0	21.0	20.0	29.0	28.0	30.0	25.5	---
30	18.0	---	7.0	8.0	---	18.0	19.5	27.0	29.5	30.0	26.0	23.0
31	19.0	---	8.0	---	---	19.0	---	25.0	---	30.0	26.0	---
MONTH	---	---	---	---	---	---	---	---	27.5	---	---	---

LOCATION.--Lat 30°54'57", long 99°47'02", Menard County, on right bank at intersection of Canal and Gay Streets in Menard and 4.7 miles (7.6 km) downstream from headgates.

GAGE.--Water-stage recorder. Datum of gage is 1,878.06 ft (572.433 m) above mean sea level. Prior to July 23, 1940, nonrecording gage at site 2,000 ft (610 m) upstream at datum 4.99 ft (1.521 m) higher.

EXTREMES.--Period of record: Maximum daily discharge (exclusive of times canal was submerged by floodwaters of San Saba River or when flow was affected by local runoff between point of diversion and station), 43 ft³/s (1.22 m³/s) Apr. 29, 30, 1928; no flow at times.

REMARKS.--Records good. Discharge represents flow diverted from San Saba River; local runoff between diversion point and gage is excluded. Canal diverts water from right bank of San Saba River 4.7 miles (7.6 km) upstream from Menard for irrigation near Menard. First diversion was about 1890.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	22	21	24	23	23	21	17	13	17	0	23
2	21	25	21	24	24	23	21	17	13	17	0	23
3	21	24	21	24	23	23	21	17	13	17	0	23
4	21	23	21	24	23	23	21	17	13	16	0	23
5	21	22	21	24	23	22	22	18	13	16	0	23
6	21	22	21	24	23	23	22	18	13	9.5	0	23
7	21	23	22	24	23	21	21	17	9.2	9.2	4.3	23
8	21	23	23	24	23	22	21	17	0	9.2	12	18
9	21	23	23	24	23	23	21	17	0	9.2	13	18
10	21	23	23	24	23	22	21	17	0	9.9	10	18
11	21	23	23	24	23	23	21	17	2.5	10	16	18
12	21	23	23	24	23	22	21	16	10	10	17	17
13	21	23	23	24	23	22	21	16	11	9.0	16	17
14	21	23	23	24	23	22	21	15	12	8.4	16	17
15	21	23	23	24	23	22	21	14	14	5.6	17	18
16	22	23	23	24	23	22	21	13	17	.75	17	18
17	24	23	23	24	23	22	21	14	19	1.14	18	18
18	22	23	23	24	23	22	19	14	19	0	14	18
19	21	23	23	23	23	22	19	14	20	0	14	18
20	21	23	24	23	23	22	17	15	20	0	19	18
21	21	23	24	24	23	21	18	15	19	0	14	18
22	22	23	24	24	23	21	19	15	18	0	20	18
23	22	24	24	24	23	22	19	14	18	0	20	18
24	22	24	25	24	23	23	19	14	18	0	20	17
25	22	24	24	24	23	23	18	14	18	0	20	17
26	22	24	24	24	23	22	15	14	18	0	21	17
27	22	23	24	24	23	21	23	14	18	0	14	16
28	22	22	24	24	23	21	3.5	14	18	0	21	16
29	22	21	24	24	23	21	11	14	17	0	21	19
30	22	21	24	24	---	21	16	14	17	0	22	18
31	22	---	24	24	---	21	---	14	---	0	23	---
TOTAL	666	687	707	742	668	681	541.33	476	402.42	173.99	434.3	566
MEAN	21.5	22.4	22.5	23.9	23.1	22.3	18.1	15.4	13.4	5.61	14.0	18.9
MAX	24	25	25	24	24	24	22	18	20	17	23	23
MIN	20	21	20	23	23	21	2.3	13	0	0	0	16
AC-FT	1320	1360	1400	1470	1320	1350	1070	944	798	345	861	1120

CAL YR 1975	TOTAL	4327.56	MEAN	11.9	MAX	25	MIN	0	AC-FT	8580
STR YR 1976	TOTAL	6744.54	MEAN	18.4	MAX	25	MIN	0	AC-FT	13300

08144500 San Saba River at Menard, Tex.

LOCATION.--Lat 30°55'08", long 99°47'07", Menard County, on downstream side of bridge on U.S. Highway 83 in Menard, 1.1 miles (1.8 km) downstream from Las Moras Creek, 1.9 miles (3.1 km) upstream from Volkmann Draw, and at mile 110.4 (177.6 km).

DRAINAGE AREA.--1,151 mi² (2,981 km²).

PERIOD OF RECORD.--September 1915 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,863.05 ft (567.858 m) above mean sea level. Sept. 14, 1915, to Mar. 12, 1924, nonrecording gage at site 635 ft (194 m) downstream at datum 2.20 ft (0.671 m) lower. Mar. 13, 1924, to Feb. 21, 1939, nonrecording gage at site 1,000 ft (305 m) upstream at datum 2.00 ft (0.610 m) higher. Feb. 22, 1939, to Jan. 25, 1940, nonrecording gage at present site and datum. Jan. 26, 1940, to Sept. 19, 1957, water-stage recorder at site 240 ft (73 m) to right at present datum. Feb. 8, 1962, to Jan. 22, 1963, nonrecording gage at site 600 ft (180 m) downstream at present datum.

AVERAGE DISCHARGE.--61 years, 64.2 ft³/s (1.818 m³/s), 46,510 acre-ft/yr (57.3 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 9,840 ft³/s (279 m³/s) Sept. 2 (gage height, 12.31 ft or 3.752 m); minimum, 19 ft³/s (0.54 m³/s) Aug. 25.

Period of record: Maximum discharge, 130,000 ft³/s (3,680 m³/s) July 23, 1938 (gage height, 22.2 ft or 6.77 m), present site and datum, from floodmark, from rating curve extended above 56,000 ft³/s (1,590 m³/s) on basis of slope-area measurement of peak flow; no flow at times as result of upstream diversion to Noyes Canal (station 08144000).

Maximum stage since at least 1880, 23.3 ft (7.10 m) June 6, 1899, present site and datum, from information by local resident.

REMARKS.--Records good. Since about 1890, low flow during irrigation season regulated by diversions to Noyes Canal 4.5 miles (7.2 km) upstream and diversions by pumping at several locations upstream. Records of the Texas Water Rights Commission show permits have been granted to irrigate 3,338 acres (1,400 hm²) above station. See record of Noyes Canal on preceding page.

REVISIONS (WATER YEARS).--WSP 568: Drainage area. WSP 1512: 1918-20, 1922-25, 1926(M), 1927-32, 1934(M), 1936, 1938(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	45	57	46	43	47	46	49	36	27	55	489
2	44	113	58	46	43	47	45	48	35	26	54	3180
3	44	125	58	46	42	49	47	46	35	28	52	309
4	44	71	60	45	42	46	49	44	34	411	51	165
5	43	55	62	46	42	44	75	48	35	104	51	104
6	42	50	60	48	42	43	69	54	36	57	53	67
7	41	50	55	47	43	39	59	49	47	49	44	61
8	42	49	50	45	44	40	51	48	52	47	28	62
9	43	48	52	46	42	51	49	49	49	94	27	57
10	38	47	52	47	42	46	48	49	47	147	27	55
11	34	42	52	48	42	49	48	48	42	96	26	54
12	34	42	53	46	43	48	48	46	32	91	25	53
13	36	45	53	47	44	42	48	47	32	72	26	53
14	37	46	53	46	44	43	48	44	33	65	26	52
15	32	48	50	45	45	45	49	43	33	66	26	49
16	43	48	50	45	47	45	58	43	29	74	25	45
17	116	48	49	45	47	45	56	43	31	129	24	44
18	67	48	48	46	43	45	51	42	35	82	25	44
19	49	48	48	44	43	46	51	41	36	72	25	43
20	45	46	48	44	45	45	56	46	40	65	25	45
21	43	46	47	44	43	44	53	44	34	61	25	46
22	44	45	48	44	42	44	49	42	33	62	25	44
23	50	48	48	44	43	44	50	41	31	66	25	43
24	42	48	55	45	44	63	50	39	31	66	25	42
25	47	48	53	45	43	63	48	40	30	64	22	42
26	54	49	50	43	44	53	47	40	30	69	24	43
27	50	51	48	44	44	46	61	38	30	63	27	46
28	42	54	48	44	47	45	61	38	29	61	25	47
29	47	62	46	44	47	47	55	38	27	59	25	44
30	46	62	46	44	42	45	52	37	27	58	29	42
31	45	---	46	43	---	46	---	38	---	57	30	---
TOTAL	1458	1637	1603	1403	1265	1451	1577	1362	1051	2488	977	5470
MEAN	47.1	54.6	51.7	45.3	43.6	46.8	52.6	43.9	35.0	80.3	31.5	182
MAX	116	125	62	48	47	63	75	54	52	411	55	3180
MIN	34	45	46	43	42	39	45	37	27	26	22	42
AC-FT	2440	3250	3180	2740	2510	2480	3130	2700	2080	4930	1940	10850

C&L YR 1975 TOTAL 25157 MEAN 68.9 MAX 710 MIN 36 AC-FT 49900
WTR YR 1976 TOTAL 21742 MEAN 59.4 MAX 3180 MIN 22 AC-FT 43130

PEAK DISCHARGE (BASE, 670 FT³/S).--July 4 (1215) 1,300 ft³/s (7.12 ft); Sept. 2 (0145) 9,840 ft³/s (12.31 ft).

COLORADO RIVER BASIN

08144800 Brady Creek near Eden, Tex.

LOCATION.--Lat 31°11'05", long 99°50'29", Concho County, on right bank at upstream side of bridge on U.S. Highway 83, 0.8 mile (1.3 km) downstream from Fitzgerald Creek, 2.2 miles (3.5 km) south of Eden, 2.4 miles (3.9 km) upstream from Hardin Branch, and at mile 69.3 (111.5 km).

DRAINAGE AREA.--97 mi² (251 km²).

PERIOD OF RECORD.--April 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,000.99 ft (609.902 m) above mean sea level.

AVERAGE DISCHARGE.--14 years, 1.05 ft³/s (0.0297 m³/s), 761 acre-ft/yr (938,000 m³/yr).

EXTREMES.--Current year: Maximum discharge, 473 ft³/s (13.4 m³/s) July 11 (gage height, 3.51 ft or 1.070 m); minimum, 0.05 ft³/s (0.001 m³/s) July 2-4.

Period of record: Maximum discharge, 5,110 ft³/s (145 m³/s) Apr. 28, 1966 (gage height, 7.08 ft or 2.158 m); no flow for many days most years.

Maximum stage since at least 1884, 15.8 ft (4.82 m) in July 1938, from information by local resident.

REMARKS.--Records good. At end of year, flow from 65.0 mi² (168.4 km²) above this station was partly controlled by five floodwater-retarding structures with a combined detention capacity of 22,190 acre-ft (27.4 hm³) below the flood-spillway crests.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.50	.30	.64	.76	.71	1.1	2.2	.60	.41	.08	.88	5.1
2	.46	4.7	.64	.81	.71	.85	1.9	.48	.41	.07	.88	2.4
3	.46	1.9	.67	.57	.68	.79	1.9	.41	.41	.05	.88	1.6
4	.44	1.0	.64	.90	.71	.76	1.8	.41	.41	.18	.88	1.4
5	.49	.08	.82	1.0	.72	.64	1.5	.97	.36	.22	.88	1.2
6	.52	.88	.71	.88	.64	.71	.76	.81	.46	.13	.80	1.2
7	.53	.88	.62	.97	.64	.87	.56	.59	.51	.13	.79	1.2
8	.49	.88	.64	.81	.64	1.0	.57	.52	.57	.13	.79	1.1
9	.46	.88	.64	.79	.65	.97	.52	.44	.51	2.9	.79	1.1
10	.43	.81	.64	.96	.66	.87	.51	.43	.41	1.8	.71	1.0
11	.35	.79	.64	.97	.70	.80	.46	.44	.41	65	.68	.79
12	.36	.71	.77	.88	.75	.76	.46	.49	.41	49	.57	.79
13	.36	.64	.79	.79	.79	.67	.46	1.3	.41	2.5	.64	.79
14	.32	.64	.79	.79	.79	.80	.48	.64	.32	1.1	.64	1.83
15	.32	.64	.79	.76	.79	.79	.79	.51	.23	.90	.64	1.2
16	.35	.68	.76	.72	.76	.79	1.5	.51	.36	.86	.64	1.1
17	.38	.73	.71	.71	.52	.79	.58	.51	.57	2.8	.64	1.0
18	.38	.71	.71	1.1	.88	.74	.49	.46	.53	1.3	.71	1.96
19	.36	.71	.71	1.6	1.4	.77	.46	.41	1.3	.95	1.1	1.6
20	.36	.71	.71	.88	.58	.81	.61	.57	.49	.78	.99	2.0
21	.32	.71	.71	.77	.47	.83	.56	.57	.24	.64	.87	1.8
22	.33	.71	.71	.59	.56	.97	.42	.57	.19	.74	.79	1.3
23	.45	.76	.72	.57	.69	.97	.72	.51	.16	1.0	.78	1.0
24	.42	.79	1.4	.66	.76	1.2	.68	.51	.13	.94	.71	.97
25	.34	.70	1.2	.72	.82	1.5	.57	.51	.15	.88	.69	1.0
26	.36	.62	.84	.68	.87	1.3	.52	.51	.15	.88	.71	.88
27	.36	.62	.84	.71	.83	1.3	.51	.46	.13	.88	.68	.87
28	.32	.78	.79	.71	.79	1.6	3.5	.46	.11	.88	.57	1.1
29	.31	.79	.79	.71	.79	1.9	2.7	.46	.11	.88	.54	1.2
30	.29	.74	.79	.71	---	2.1	.67	.46	.09	.88	.64	1.0
31	.29	---	.71	.71	---	2.1	---	.46	---	.88	.64	---
TOTAL	12.15	27.29	23.54	25.13	21.30	32.05	29.36	16.98	11.00	140.30	23.19	39.48
MEAN	.39	.91	.76	.81	.73	1.03	.98	.55	.37	4.53	.75	1.32
MAX	.53	4.7	1.4	1.6	1.4	2.1	3.5	1.3	1.3	.65	1.1	5.1
MIN	.29	.30	.62	.57	.47	.64	.42	.41	.09	.05	.57	.79
AC-FT	24	54	47	56	42	64	58	34	22	278	46	78

CAL YR 1975 TOTAL 655.82 MEAN 1.00 MAX 80 MIN .29 AC-FT 1300
WTR YR 1976 TOTAL 401.77 MEAN 1.10 MAX 65 MIN .05 AC-FT 797

08144900 Brady Creek Reservoir near Brady, Tex.

LOCATION.--Lat 31°08'17", long 99°23'07", McCulloch County, at mouth of Bear Creek on Brady Creek, 280 ft (85 m) upstream from Farm Road 3022 over Brady Creek Dam, 3.0 miles (4.8 km) west of Brady, and at mile 34.1 (54.9 km).

DRAINAGE AREA.--513 mi² (1,329 km²).

PERIOD OF RECORD.--Contents: May 1963 to current year.

Water quality: Chemical analyses: October 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is mean sea level.

EXTREMES.--Current year: Maximum contents, 28,200 acre-ft (34.8 hm³) Oct. 1 (elevation, 1,741.87 ft or 530.922 m); minimum, 24,790 acre-ft (30.6 hm³) July 3 (elevation, 1,740.03 ft or 530.361 m).

Period of record: Maximum contents, 40,880 acre-ft (50.4 hm³) Sept. 24, 1971 (elevation, 1,747.70 ft or 532.699 m); minimum since first appreciable storage, 1,030 acre-ft (1.27 hm³) Sept. 18, 1964 (elevation, 1,710.4 ft or 521.33 m).

REMARKS.--The reservoir is formed by a compacted earthfill dam 8,400 ft (2,560 m) long. The dam was completed and storage began in May 1963. The dam was built by the city of Brady in cooperation with the Soil Conservation Service and the Farmers Home Administration for flood control and for municipal and industrial water supply. The spillway is a cut channel through natural ground 1,000 ft (305 m) wide located at right end of dam. The top of conservation pool is an uncontrolled concrete drop-inlet structure that discharges through a 7.0- by 7.0-foot (2.1- by 2.1-meter) concrete box conduit and is designed to discharge 4,000 ft³/s (113 m³/s) at a 19.4-foot (5.9-meter) head. The gated outlet is a 36-inch (914-millimeter) pipe that extends through the embankment and is equipped with three sluice gates for controlled releases downstream. Flow into reservoir is affected at times by discharge from the flood-detention pools of 35 floodwater-retarding structures with combined detention capacity of 82,180 acre-ft (101 hm³). These structures were built during the period February 1955 to July 1962 and control runoff from 263 mi² (681 km²) in the Brady Creek watershed above this station. Capacity curve is based on Geological Survey topographic map (1960 edition) and was not adjusted for borrow. Data regarding the dam and reservoir are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	1,783.0	
Crest of spillway.....	1,762.4	90,310
Crest of spillway (top of conservation pool).....	1,743.0	30,430
Lowest gated outlet (invert).....	1,712.0	1,320

COOPERATION.--Records furnished by city of Brady show no water diverted during year for municipal or industrial use. Capacity curve furnished by the city of Brady.

Capacity table (elevation, in feet, and contents, in acre-feet)

1,740.0	24,740
1,741.0	26,550
1,742.0	28,450

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28170	27460	27250	27060	26760	26460	25930	26060	25750	24900	26120	25920
2	28130	27780	27250	27040	26740	26460	25920	26040	25720	24830	26040	26080
3	28110	27800	27250	27020	26720	26460	25920	26010	25680	24790	26010	26120
4	28070	27820	27270	27010	26720	26420	25950	25970	25640	24960	25970	26130
5	28030	27820	27270	26970	26700	26370	26030	26080	25700	25120	25930	26120
6	28030	27820	27250	26970	26680	26390	26030	26060	25660	25140	25900	26100
7	27960	27820	27230	26930	26680	26410	26030	26030	25630	25140	25860	26080
8	27940	27800	27230	26890	26680	26420	26010	26010	25610	25160	25830	26060
9	27920	27780	27220	26890	26660	26390	25990	26010	25570	25550	25790	26010
10	27900	27770	27220	26890	26680	26370	25970	26030	25520	25680	25740	25970
11	27880	27750	27220	26890	26680	26370	25970	26010	25480	25750	25700	25930
12	27840	27690	27220	26890	26680	26330	25950	26080	25450	25830	25640	25900
13	27820	27650	27220	26890	26680	26320	25950	26130	25390	26010	25590	25860
14	27780	27610	27230	26890	26680	26300	25950	26100	25360	26100	25540	25840
15	27770	27600	27220	26870	26680	26280	25900	26080	25320	26120	25480	25830
16	27770	27580	27200	26870	26680	26240	25880	26060	25260	26350	25430	25790
17	27750	27580	27160	26870	26700	26220	26130	26040	25360	26420	25390	25770
18	27690	27580	27140	26850	26660	26210	26120	25990	25340	26440	25390	25740
19	27670	27580	27120	26850	26660	26210	26150	25970	25430	26420	25370	25700
20	27630	27520	27100	26840	26660	26170	26120	25950	25390	26410	25320	25680
21	27610	27460	27080	26840	26610	26130	26100	25930	25360	26370	25280	25640
22	27630	27440	27080	26820	26570	26120	26100	25930	25280	26350	25230	25590
23	27630	27420	27080	26820	26530	26100	26100	25970	25230	26330	25190	25550
24	27610	27390	27180	26840	26500	26150	26080	25970	25190	26330	25170	25540
25	27600	27390	27140	26840	26480	26150	26060	25930	25140	26320	25140	25520
26	27580	27330	27120	26820	26480	26120	26010	25920	25100	26300	25120	25550
27	27560	27290	27120	26800	26480	26080	26010	25880	25070	26280	25070	25520
28	27560	27310	27120	26800	26480	26060	26060	25860	25030	26240	25030	25520
29	27540	27350	27190	26800	26460	26030	26060	25830	24990	26220	25010	25480
30	27520	27270	27080	26800	---	25990	26080	25810	24960	26170	24980	25460
31	27480	---	27060	26780	---	25950	---	25770	---	26130	25010	---
(†)	1741.49	1741.38	1741.27	1741.12	1740.95	1740.67	1740.74	1740.57	1740.12	1740.77	1740.15	1740.40
(*)	-720	-210	-210	-280	-320	-510	+130	-310	-810	+1170	-1120	+450
MAX	28170	27820	27270	27060	26760	26460	26150	26130	25750	26440	26120	26130
MIN	27480	27270	27060	26780	26460	25950	25880	25770	24960	24790	24980	25460
CAL YR 1975.....	+ -3990			MAX 32350			MIN 27060					
WTR YR 1976.....	+ -2740			MAX 28170			MIN 24790					

† Elevation, in feet, at end of month.

* Change in contents, in acre-feet.

COLORADO RIVER BASIN

08144900 Brady Creek Reservoir near Brady, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)
SFP 13...	1040	1160	8.2	25.5	250	130	53	29	130

DATE	SODIUM ADSORPTION RATIO	DIS-SOLVED PHOSPHATE (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SiO2) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
SFP 13...	3.6	10	154	0	98	220	.4	11	627

COLORADO RIVER BASIN

133

08145000 Brady Creek at Brady, Tex.

LOCATION.--Lat 31°08'17", long 99°20'05", McCulloch County, on left bank just upstream from bridge on U.S. Highway 377 on North Bridge Street in Brady, 0.4 mile (0.6 km) downstream from Live Oak Creek, and at mile 29.5 (47.5 km).

DRAINAGE AREA.--575 mi² (1,489 km²).

PERIOD OF RECORD.--May 1939 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,646.50 ft (501.853 m) above mean sea level. Prior to July 9, 1940, nonrecording gage at site 3,600 ft (1,100 m) upstream at datum 8.24 ft (2.512 m) higher.

AVERAGE DISCHARGE.--23 years (1939-62) prior to completion of Brady Creek Reservoir, 25.2 ft³/s (0.714 m³/s), 18,260 acre-ft/yr (22.5 hm³/yr); 14 years (1962-76) regulated, 12.9 ft³/s (0.365 m³/s), 9,350 acre-ft/yr (11.5 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 91 ft³/s (2.58 m³/s) July 4 (gage height, 7.17 ft or 2.185 m); no flow at times. Period of record: Maximum discharge, 39,100 ft³/s (1,110 m³/s) Sept. 10, 1952 (gage height, 24.80 ft or 7.559 m); no flow at times most years.

Maximum stage since at least 1882, 29.1 ft (8.87 m) July 23, 1938, present site and datum, discharge at site 5 miles (8 km) downstream, 86,000 ft³/s (2,440 m³/s) by slope-area measurement. Flood of Oct. 6, 1930 (second highest since 1882), reached a stage of 25.9 ft (7.89 m), discharge, 50,300 ft³/s (1,420 m³/s), present site and datum, from information by local residents.

REMARKS.--Records good. Flow largely controlled since May 22, 1962, by Brady Creek Reservoir. (station 08144900). At end of year, flow from 24.2 mi² (62.7 km²) above this station and below Brady Creek Reservoir was partly controlled by six floodwater-retarding structures with a combined capacity of 6,440 acre-ft (7.94 hm³) below flood-spillway crests.

REVISIONS (WATER YEARS).--WSP 1512: 1941(M), 1951(M).

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.13	.16	.66	.77	.24	.01	.40	.58	.02	0	.46	20
2	.13	6.4	.46	.44	.21	.01	.40	.37	.02	0	1.0	5.0
3	.13	2.3	.46	.39	.14	.01	.41	.24	.02	0	.41	1.8
4	.13	.78	.36	.35	.22	.02	.55	.29	.02	19	.25	.74
5	.13	.51	.49	.45	.21	.02	2.7	2.3	1.2	.60	.21	.47
6	.13	.31	.46	.35	.17	1.9	.78	.98	.51	.18	.16	.35
7	.13	.21	.53	.35	.14	.65	.67	.40	.15	.06	.13	.21
8	.13	.16	.53	.34	.10	.34	.58	.29	.06	1.8	.10	.16
9	.13	.26	.53	.40	.07	.23	.48	.27	.03	11	.09	.15
10	.13	.23	.68	.47	.07	.19	.36	.23	.02	2.4	.08	.11
11	.13	.16	.72	.45	.08	.15	.29	.20	.02	.76	.07	.09
12	.13	.15	.66	.33	.04	.13	.26	1.6	.01	.29	.07	.09
13	.13	.15	.80	.29	.12	.20	.25	5.0	.01	6.7	.07	.34
14	.12	.16	.67	.46	.14	.08	.23	2.6	0	9.9	.06	.83
15	.12	.14	.55	.34	.10	.04	2.9	.99	0	2.2	.06	.53
16	.13	.23	.67	.27	.09	.07	4.0	.42	0	4.1	.05	.33
17	.12	.38	.67	.26	.08	.13	2.1	.21	.82	22	.05	.19
18	.12	.28	.72	.44	.04	.19	1.9	.16	.57	5.7	.05	.12
19	.13	.25	.76	.33	.03	.20	.95	.15	.11	1.4	.05	.11
20	.12	.29	.71	.25	.03	.18	1.5	.13	.04	.43	.05	.16
21	.02	.25	.68	.25	.04	.18	.75	.13	.02	.35	.05	.16
22	.17	.25	.72	.24	.08	.21	.49	.13	.02	.35	.05	.13
23	.14	.23	.73	.21	.12	.23	.35	.34	.01	.16	.04	.13
24	.17	.17	.91	.23	.07	.61	.34	.38	0	.40	.04	.16
25	.12	.21	.70	.23	.03	.34	.31	.15	0	1.5	.05	.18
26	.14	.34	.71	.22	.02	.27	.25	.07	0	.94	.04	.40
27	.14	.34	.56	.25	.02	.25	.22	.04	0	.87	.04	.33
28	.13	.24	.49	.22	.02	.27	2.7	.03	0	.56	.04	1.8
29	.15	.26	.44	.22	.02	.29	2.6	.02	0	.60	.04	.28
30	.15	.53	.43	.22	---	.35	.90	.02	0	.63	.05	.15
31	.14	---	.61	.22	---	.34	---	.04	---	.59	.40	---
TOTAL	1.92	16.36	18.90	10.24	2.89	8.14	30.54	18.80	3.68	95.47	4.31	35.50
MEAN	.062	.55	.61	.33	.12	.26	1.02	.61	.12	3.08	.14	1.18
MAX	.14	6.4	.91	.77	.24	1.9	4.0	5.0	1.2	22	1.0	20
MIN	.02	.15	.36	.21	.02	.01	.22	.02	0	0	.04	.09
AC-FT	3.8	32	37	20	5.7	16	61	37	7.3	189	8.5	70
CAL YR 1975	TOTAL	8548.02	MEAN	23.4	MAX	726	MIN	.02	AC-FT	16460		
WTR YR 1976	TOTAL	246.75	MEAN	.67	MAX	22	MIN	0	AC-FT	4.9		

COLORADO RIVER BASIN

08146000 San Saba River at San Saba, Tex.

LOCATION.--Lat 31°12'47", long 98°43'09", San Saba County, on right bank at downstream side of bridge on State Highway 16, 1.2 miles (1.9 km) north of San Saba, 2.7 miles (4.3 km) upstream from Mill Creek, 4.8 miles (7.7 km) downstream from China Creek, and at mile 16.6 (26.7 km).

DRAINAGE AREA.--3,042 mi² (7,879 km²).

PERIOD OF RECORD.--December 1904 to December 1906 (gage heights only), September 1915 to current year. Published as "near San Saba" December 1904 to December 1906 and September 1915 to August 1930.

GAGE.--Water-stage recorder. Datum of gage is 1,162.16 ft (354.226 m) above mean sea level. See WSP 1922 for history of changes prior to July 8, 1953. Since Oct. 1, 1956, supplementary water-stage recorder 2,780 ft (847 m) to right of main-channel gage used for flood-flows.

AVERAGE DISCHARGE.--61 years, 242 ft³/s (6,853 m³/s), 175,300 acre-ft/yr (216 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 10,300 ft³/s (292 m³/s) July 4 (gage height, 24.06 ft or 7.333 m); minimum, 60 ft³/s (1.70 m³/s) June 17.

Period of record: Maximum discharge, 203,000 ft³/s (5,750 m³/s) July 23, 1938 (gage height, 39.3 ft or 11.98 m, present site and datum), from rating curve extended above 41,000 ft³/s (1,160 m³/s) on basis of slope-area measurement of 203,000 ft³/s (5,750 m³/s); no flow at times in 1918, 1930, 1954-56, and 1963-64.

Maximum stage since at least 1899, that of July 23, 1938. Flood of June 6, 1899, reached a stage of 36.7 ft (11.19 m), present site and datum, from information by local resident.

REMARKS.--Records good. Many diversions above station for irrigation and municipal use affect low flow. Flow partly affected by Brady Creek Reservoir (see station 08144900), capacity 90,300 acre-ft (111 hm³).

REVISIONS (WATER YEARS).--WSP 458: 1915-16. WSP 1282: Drainage area. WSP 1512: 1918-19(M), 1922, 1931(M), 1935-36. WSP 1922: 1917.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	112	127	135	134	115	103	104	152	303	82	182	166
2	107	135	131	131	118	98	107	130	90	71	176	152
3	109	182	129	127	115	96	104	126	83	65	171	1960
4	110	203	130	127	109	98	100	122	77	4290	164	707
5	110	184	134	129	109	98	106	125	79	1780	161	452
6	114	184	137	128	108	95	136	137	84	713	158	327
7	117	184	128	124	109	96	149	141	87	409	154	265
8	109	149	127	121	112	103	137	134	92	282	148	222
9	109	142	126	120	117	107	141	128	83	224	145	190
10	113	138	126	124	119	116	133	125	79	226	142	175
11	116	138	125	127	120	113	127	133	74	1230	134	166
12	115	135	125	129	115	112	122	132	78	863	122	150
13	110	133	128	124	104	104	114	164	78	454	110	145
14	105	134	128	124	110	98	113	320	76	364	106	142
15	106	136	126	125	115	104	116	200	72	334	103	140
16	104	137	125	125	114	102	150	147	68	1570	100	138
17	104	138	126	124	119	97	190	127	66	4000	92	135
18	101	139	127	120	123	96	165	117	103	1170	90	133
19	102	141	128	122	123	98	163	112	170	608	88	131
20	107	138	127	121	116	94	169	108	185	454	89	170
21	130	134	130	115	116	88	154	111	111	369	95	150
22	122	132	135	116	114	86	146	112	90	319	98	138
23	126	133	136	121	118	86	132	112	88	288	96	133
24	123	134	147	123	110	109	130	115	87	264	94	130
25	121	136	148	124	101	128	126	131	402	241	91	130
26	124	137	137	121	104	137	119	199	168	231	90	130
27	134	137	138	112	107	121	116	109	117	229	92	132
28	135	136	141	117	106	116	116	96	104	222	94	181
29	134	140	137	119	104	114	124	93	95	209	97	192
30	131	138	134	114	---	106	163	88	89	198	99	159
31	120	---	134	113	---	104	---	137	---	189	264	---
TOTAL	3592	4334	4085	3805	3279	3225	3977	4183	3380	21948	3845	7541
MEAN	116	144	132	123	113	104	133	135	113	708	124	251
MAX	134	203	148	134	123	137	149	320	402	4290	264	1960
MIN	101	127	125	112	101	86	100	88	66	65	88	130
AC-FT	7120	5600	6160	7550	6500	6400	7890	8400	6700	43530	7630	14960

CAL YR 1976 TOTAL 46998 MEAN 244 MAX 2300 MIN 95 AC-FT 176300
WTR YR 1976 TOTAL 67194 MEAN 184 MAX 4290 MIN 65 AC-FT 133300

PEAK DISCHARGE (BASE, 3,000 FT³/S)

DATE	TIME	G.HT.	DISCHARGE
7-4	1800	24.06	10,300
7-17	0430	19.92	6,760
9-3	0730	13.19	3,390

135

LOCATION.--Lat 31°13'04", long 98°33'51", San Saba-Lampasas County line, near left bank at downstream side of pier of bridge on U.S. Highway 190, 5.2 miles (8.4 km) downstream from San Saba River, 9.2 miles (14.8 km) east of San Saba, and at mile 474.3 (763.1 km).

PERIOD OF RECORD.--Discharge: October 1915 to October 1922 (published as "near Chadwick"), October 1923 to August 1930 (published as "near Tow"), September 1930 to current year. Monthly discharge only for some periods, published in WSP 1312.

ear flow: July, September 1950 to current year. Monthly discharge only for some periods, published in WSP 1952.
 Water quality: Chemical analyses: September 1947 to current year. Chemical and biochemical analyses: October 1969 to current year. Pesticide analyses: January 1968 to current year. Water temperatures: September 1947 to current year. Sediment records: September 1950 to September 1962.

GAGE.--Water-stage recorder. Datum of gage is 1,096.22 ft (334.128 m) above mean sea level. See WSP 1922 for history of changes prior to May 23, 1940.

EXTREMES:--Discharge: Current year: Maximum discharge, 10,700 ft³/s (303 m³/s) July 17 (gage height, 11.86 ft or 3.615 m); minimum, 92 ft³/s ((.61 m³/s) July 3
 Period of record: Maximum discharge, 224,000 ft³/s (6,340 m³/s) July 23, 1938 (gage height, 63.2 ft or 19.26 m, present site, based on floodmarks at site then in use); no flow Aug. 27-31, 1954; Aug. 3-13, 1963; July 20 to Aug. 8, Aug. 11-14, 1964.
 Historic: Maximum stage during period 1878 to July 22, 1938, 58.4 ft (17.80 m) Sept. 25, 1900 (discharge, 184,000 ft³/s or 5,210 m³/s), present site, from floodmarks at former site.
 Water quality: Current year: Maximum daily specific conductance, 2,000 micromhos May 1; minimum daily, 219 micromhos July 5.
 Maximum water temperatures, 33.0°C July 31, Aug. 7, 9; minimum, 5.0°C Jan. 7.
 Period of record: Maximum daily specific conductance, 5,660 micromhos June 28, 1962; minimum daily, 161 micromhos Sept. 11, 1952.
 Maximum water temperatures, 37.0°C Aug. 3, 1956; minimum, freezing point Jan. 29, 1948, Jan. 30, 1951.

REMARKS.--Discharge records good. Many diversions above station for irrigation, municipal use, and oilfield operation. Flow is affected by four reservoirs upstream from Winchell, a reservoir each in the San Saba River and Pecan Bayou basins; combined capacity, 1,973,000 acre-ft (2.43 km³). At end of year, flow from 883 mi² (2,287 km²) above this station was partly controlled by 179 floodwater-retarding structures with a flood-detention capacity of 192,980 acre-ft (238 km³).

REVISIONS (WATER YEARS).--WSP 458: 1916. WSP 858: 1900(M), 1936(M). WSP 1118: Drainage area. WSP 1512: 1916-18(M), 1936. WSP 1732: 1925-26(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	212	247	244	256	199	188	153	477	1050	124	395	469
2	216	244	238	256	204	188	153	1400	300	111	344	1420
3	190	257	231	243	215	162	148	426	172	127	309	3380
4	184	343	233	233	210	173	140	569	172	2610	281	1770
5	182	808	236	229	212	160	144	463	150	4500	259	1030
6	179	1190	238	231	208	153	165	429	154	1360	238	697
7	179	799	230	230	204	153	200	524	147	1466	228	535
8	175	583	228	222	199	150	195	418	147	968	216	469
9	172	440	219	219	206	160	191	333	145	670	210	370
10	171	366	215	227	211	160	192	299	137	632	203	317
11	174	327	215	227	215	173	183	300	129	1770	191	290
12	173	312	213	227	213	181	174	432	120	3000	173	271
13	169	260	214	232	208	172	171	363	123	1600	157	252
14	164	267	225	226	201	169	205	887	119	1930	144	239
15	160	264	229	220	207	175	259	611	112	1340	144	232
16	157	261	220	227	211	174	325	476	107	1780	142	230
17	157	260	217	222	218	169	717	293	119	4310	130	226
18	156	260	207	222	217	169	602	253	173	4290	123	222
19	148	264	207	222	219	169	437	263	174	4420	122	219
20	144	258	207	216	217	164	393	275	278	1510	121	226
21	143	248	207	213	214	150	507	249	261	1130	123	270
22	153	239	208	210	207	145	616	239	219	906	120	304
23	150	223	214	204	206	145	433	228	179	666	120	1830
24	150	230	221	208	204	151	348	239	153	601	117	1140
25	147	237	246	213	200	176	317	263	513	561	113	723
26	221	241	243	211	195	194	241	444	394	494	115	534
27	233	234	243	211	196	193	250	441	402	603	124	431
28	271	240	254	210	196	178	241	249	173	1220	128	613
29	280	254	251	205	190	172	250	206	145	821	136	492
30	275	255	244	208	---	160	246	227	144	578	156	672
31	264	---	246	201	---	154	---	416	---	455	640	---
TOTAL	5814	10411	7044	6881	6106	5620	6664	14122	6644	49270	6037	20273
MEAN	184	347	227	222	207	188	209	426	222	1587	195	676
MAX	244	1190	254	256	219	194	717	1400	1050	4310	640	3380
MIN	143	228	207	201	190	145	160	206	107	111	113	219
AC-FT	11531	20650	13970	13550	11820	10350	17170	28170	13190	97800	11970	40610
CAL YR 1975 TOTAL	31225	MEAN 325	MAX 4450	MIN 143	AC-FT	59750	288400					

COLORADO RIVER BASIN

08147000 Colorado River near San Saba, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPF- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)	HARD- NESS (CA+MG) (MG/L)
OCT.									
06...	1315	200	1160	8.3	20.0	9.0	98	1.7	390
DEC.									
15...	1345	250	1020	8.1	14.0	10.0	96	2.3	360
JAN.									
07...	1250	228	1240	8.0	8.0	--	--	--	410
FEB.									
23...	1140	210	1270	8.1	14.5	9.4	91	2.2	420
MAR.									
03...	1315	185	1260	8.0	22.0	--	--	--	400
APR.									
05...	1330	135	806	7.9	19.5	7.3	78	1.7	310
MAY									
31...	2000	610	533	7.8	22.0	--	--	--	180
JUNE									
07...	1145	140	773	7.5	26.0	5.5	69	2.0	280
JULY									
31...	1615	430	1160	8.0	33.0	--	--	--	340
AUG.									
03...	0730	315	996	7.7	27.5	6.1	78	1.9	330
SEP.									
14...	0940	242	518	8.0	25.0	--	--	--	210

DATE	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)
OCT.									
06...	180	87	43	90	2.0	4.0	264	0	120
DEC.									
15...	130	79	40	70	1.6	3.7	282	0	94
JAN.									
07...	200	91	44	95	2.0	3.3	257	0	140
FEB.									
23...	210	89	47	100	2.1	3.3	250	0	150
MAR.									
03...	210	85	46	98	2.1	3.8	237	0	150
APR.									
05...	84	63	36	49	1.2	2.8	270	0	57
MAY									
31...	60	47	14	33	1.1	4.0	140	0	44
JUNE									
07...	82	64	28	52	1.4	4.5	235	0	59
JULY									
31...	190	82	34	110	2.6	4.8	194	0	160
AUG.									
03...	140	76	34	67	1.6	4.5	228	0	110
SEP.									
14...	43	56	18	23	.7	3.7	209	0	25

DATE	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)
OCT.									
06...	160	--	14	648	.37	.00	.07	.70	.10
DEC.									
15...	130	.6	9.4	566	.33	.01	.01	.32	.05
JAN.									
07...	190	.4	9.3	700	--	--	--	--	--
FEB.									
23...	190	.4	7.2	710	1.5	.02	.07	.76	.04
MAR.									
03...	190	.3	7.4	697	--	--	--	--	--
APR.									
05...	87	.2	9.6	438	.46	.01	.06	.39	.01
MAY									
31...	70	.2	9.9	291	--	--	--	--	--
JUNE									
07...	92	.4	14	430	.35	.01	.06	.71	.13
JULY									
31...	170	.4	13	670	--	--	--	--	--
AUG.									
03...	140	.3	14	558	.10	.00	.00	.90	.06
SEP.									
14...	42	.2	13	284	--	--	--	--	--

COLORADO RIVER BASIN

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08147000 Colorado River near San Saba, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL PCB (UG/L)	POLY-CHLORINATED NAPHTHALENES (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLORDANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DIALINON (UG/L)	TOTAL DIELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)
FEB. 23...	1140	.0	.00	.00	.0	.00	.00	.00	.07	.00	.00	.00
JUNE 07...	1145	.0	.00	.00	.0	.00	.00	.00	.00	.00	.00	.00
AUG. 03...	0730	.0	.00	.00	.0	.00	.00	.00	.00	.00	.00	.00

DATE	TOTAL HEPTA-CHLOR (UG/L)	TOTAL HEPTA-CHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALATHION (UG/L)	TOTAL METHYL PARATHION (UG/L)	TOTAL METHYL TRI-THION (UG/L)	TOTAL PARA-THION (UG/L)	TOTAL TOXAPHENE (UG/L)	TOTAL TRI-THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
FEB. 23...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00
JUNE 07...	.00	.00	.00	.00	.00	.00	.00	0	.00	.02	.01	.00
AUG. 03...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

MONTH	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA+MG) (MG/L)
OCT. 1975.....	5814	1140	640	10100	160	2540	120	1950	380
NOV. 1975.....	10411	1340	770	21600	210	5830	160	4410	440
DEC. 1975.....	7044	1040	580	11100	140	2710	110	2070	350
JAN. 1976.....	6881	1200	680	12600	180	3300	130	2490	400
FEB. 1976.....	5818	1220	700	10900	180	2870	140	2180	410
MAR. 1976.....	5220	1140	640	9080	160	2300	120	1750	380
APR. 1976.....	8664	1360	780	18200	210	5010	160	3700	450
MAY 1976.....	13192	1190	670	23900	180	6330	130	4690	390
JUNE 1976.....	6648	743	410	7350	89	1600	62	1120	260
JULY 1976.....	49277	493	270	36100	48	6340	33	4320	190
AUG. 1976.....	6037	735	400	6600	88	1430	62	1010	260
SEPT 1976.....	20273	826	460	25500	110	6030	75	4130	290
TOTAL	145209	**	**	143000	**	46400	**	33800	**
WTD.AVG.	397.83	875	490	**	120	**	86	**	300

COLORADO RIVER BASIN

08147000 Colorado River near San Saba, Tex.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1230	1230	1110	1170	1180	1240	962	2000	544	730	1180	400
2	1140	1160	1080	1200	1210	1240	978	1400	647	717	1060	1000
3	1200	1160	1030	1230	1260	1260	930	1880	595	708	990	657
4	1180	1160	1020	1170	1270	1250	908	1680	629	400	896	485
5	1180	1400	996	1170	1160	1210	780	1480	694	219	862	576
6	1160	1630	978	1200	1200	1180	767	1420	766	393	820	513
7	1180	1610	970	1240	1250	1180	740	1210	773	800	786	442
8	1110	1530	1000	1260	1160	1120	930	888	787	1010	700	418
9	1150	1510	1040	1240	1180	1140	938	899	766	578	747	430
10	1180	1460	978	1210	1230	1120	962	854	733	640	732	455
11	1130	1360	966	1240	1300	1110	960	733	709	760	713	465
12	1080	1270	1020	1170	1200	1140	978	770	698	675	690	487
13	1010	1260	867	1200	1210	1170	987	817	689	562	676	509
14	1360	1250	979	1180	1230	1130	1030	1010	709	576	656	518
15	1060	1270	1020	1140	1230	1230	1370	838	724	685	643	523
16	1060	1260	1040	1230	1270	1200	1320	896	724	425	665	520
17	1070	1270	1000	1210	1270	1230	1680	910	736	268	665	520
18	1070	1270	1000	1180	1240	1240	1580	918	864	334	651	523
19	1020	1280	991	1200	1190	1260	1720	991	842	400	665	530
20	953	1250	1030	1170	1190	1210	1580	991	656	520	652	537
21	940	1150	1040	1170	1220	1160	1390	918	822	620	662	556
22	900	1180	1050	1180	1210	1140	1750	888	854	657	643	549
23	900	1140	1080	1220	1270	1130	1620	851	861	623	628	1640
24	953	1130	1030	1150	1180	1120	1490	829	867	533	608	1580
25	1250	1140	1200	1170	1200	1040	1380	796	1110	529	610	1530
26	1290	1140	1120	1240	1270	1010	1380	697	357	540	615	1460
27	1240	1140	1040	1250	1300	1020	1370	903	1100	583	594	1390
28	1310	1140	1140	1270	1210	991	1370	982	874	600	625	852
29	1320	1150	1150	1240	1180	974	1400	918	745	983	632	657
30	1270	1140	1120	1170	---	962	1440	921	742	1000	628	652
31	1240	---	1140	1180	---	983	---	533	---	1160	357	---
MONTH	1120	1270	1040	1200	1220	1140	1220	1040	754	620	711	712

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	20.0	13.0	17.0	10.0	20.0	21.0	22.0	26.0	---	32.0	---
2	22.0	19.0	13.0	---	---	23.0	20.0	22.0	27.0	30.0	32.0	26.0
3	23.0	20.0	14.0	9.0	14.0	22.0	20.0	23.0	28.0	31.0	32.0	26.0
4	20.0	20.0	15.0	7.0	14.0	23.0	21.0	22.0	28.0	30.0	31.0	27.0
5	24.0	---	18.0	13.0	10.0	16.0	20.0	21.0	28.0	23.0	32.0	26.0
6	23.0	22.0	15.0	12.0	8.0	15.0	22.0	25.0	28.0	25.0	---	28.0
7	22.0	20.0	15.0	5.0	8.0	14.0	---	20.0	28.0	28.0	33.0	23.0
8	24.0	22.0	14.0	6.0	12.0	15.0	22.0	22.0	28.0	27.0	32.0	29.0
9	---	22.0	15.0	8.0	14.0	13.0	20.0	20.0	26.0	26.0	33.0	---
10	25.0	18.0	16.0	13.0	15.0	17.0	23.0	25.0	29.0	25.0	32.0	27.0
11	26.0	20.0	16.0	12.0	16.0	17.0	25.0	25.0	29.0	29.0	32.0	26.0
12	27.0	16.0	---	13.0	15.0	---	23.0	---	30.0	25.0	---	28.0
13	25.0	---	17.0	13.0	---	12.0	23.0	25.0	25.0	25.0	32.0	28.0
14	26.0	15.0	14.0	---	17.0	15.0	22.0	23.0	29.0	25.0	32.0	28.0
15	25.0	16.0	14.0	13.0	20.0	18.0	23.0	26.0	31.0	26.0	30.0	28.0
16	23.0	17.0	14.0	12.0	22.0	15.0	25.0	25.0	30.0	27.0	30.0	29.0
17	22.0	19.0	10.0	13.0	20.0	16.0	21.0	25.0	29.0	25.0	30.0	29.0
18	22.0	18.0	9.0	13.0	19.0	16.0	20.0	25.0	31.0	26.0	30.0	29.0
19	23.0	20.0	9.0	10.0	20.0	20.0	21.0	22.0	28.0	27.0	30.0	27.0
20	20.0	15.0	10.0	11.0	18.0	21.0	22.0	23.0	27.0	29.0	29.0	25.0
21	---	13.0	10.0	11.0	15.0	20.0	23.0	25.0	28.0	27.0	29.0	26.0
22	21.0	13.0	14.0	12.0	15.0	20.0	24.0	27.0	30.0	29.0	29.0	25.0
23	22.0	12.0	10.0	13.0	15.0	---	23.0	27.0	---	30.0	30.0	26.0
24	23.0	13.0	9.0	13.0	15.0	16.0	25.0	25.0	29.0	31.0	30.0	27.0
25	25.0	13.0	---	12.0	15.0	---	25.0	25.0	28.0	30.0	---	27.0
26	20.0	9.0	12.0	8.0	17.0	20.0	24.0	25.0	27.0	---	30.0	25.0
27	21.0	8.0	13.0	10.0	16.0	17.0	23.0	25.0	30.0	30.0	30.0	26.0
28	22.0	16.0	11.0	10.0	18.0	20.0	24.0	27.0	30.0	30.0	30.0	23.0
29	21.0	19.0	9.0	12.0	19.0	22.0	20.0	27.0	32.0	30.0	27.0	25.0
30	20.0	14.0	11.0	13.0	---	18.0	21.0	26.0	32.0	30.0	27.0	24.0
31	21.0	---	10.0	10.0	---	20.0	---	22.0	---	33.0	27.0	---
MONTH	23.0	17.0	13.0	11.0	15.5	18.0	22.5	24.0	28.5	28.0	30.5	26.5

08148000 Lake Buchanan near Burnet, Tex.

LOCATION.--Lat 30°45'04", long 98°25'06", Burnet County, in powerhouse at Buchanan Dam on Colorado River, 1.3 miles (2.1 km) upstream from bridge on State Highway 29, 11 miles (18 km) west of Burnet, and at mile 413.6 (665.5 km).

DRAINAGE AREA.--31,250 mi² (80,940 km²), approximately, of which 12,880 mi² (33,360 km²) is probably noncontributing.

PERIOD OF RECORD.--May 1937 to current year. Prior to Oct. 1, 1968, published as Buchanan Reservoir.

GAGE.--Nonrecording gage. Datum of gage is 0.48 ft (0.146 m) above mean sea level (levels by Lower Colorado River Authority). Prior to July 1938, temporary staff and float gages at same site and datum.

EXTREMES (at 2400).--Current year: Maximum contents observed, 987,400 acre-ft (1.22 km³) July 18 (gage height, 1,019.8 ft or 310.84 m); minimum, 904,200 acre-ft (1.11 km³) Oct. 15-31 (gage height, 1,016.1 ft or 309.71 m).

Period of record: Maximum contents, 1,010,000 acre-ft (1.25 km³) Jan. 24, 1968 (gage height, 1,020.8 ft or 311.14 m); minimum after initial filling of lake in July 1938, 340,800 acre-ft (420 hm³) Sept. 8-10, 1952 (gage height, 983.4 ft or 299.74 m).

REMARKS.--The lake is formed by two reinforced concrete multiple-arch sections, three banks of tainter gates, a 1,100-foot (335-meter) uncontrolled concrete spillway section, and natural ground. The dam was completed and storage began May 20, 1937. Water is used for power development and for irrigation below Columbus. The power generating features consist of three generating units, each with a 12,677 kilowatt capacity. A pump-back unit (capacity, 840 ft³/s or 23.8 m³/s) returns water from Inks Lake to Lake Buchanan during off-peak power demand periods. Inflow is largely regulated by twelve major reservoirs with a combined capacity of 2,438,000 acre-ft (3.01 km³), of which 1,091,000 acre-ft (1.35 km³) is for flood control. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see Colorado River near San Saba (station 08147000). The capacity table is based on a 1925 survey. Data regarding the dam and lake are given in the following table:

	Gage height (feet)	Capacity (acre-feet)
Top of dam.....	1,025.5	
Crest of gravity overflow spillway (top of conservation storage).....	1,020.0	992,000
Crest of spillway (15-foot gates).....	1,005.0	678,000
Crest of spillway (25-foot gates).....	995.0	505,000
Invert of penstocks.....	937.0	36,800

COOPERATION.--Gage-height record furnished by Lower Colorado River Authority.

REVISIONS.--WSP 1118: Drainage area.

Capacity table (gage height, in feet, and contents, in acre-feet)

1,016.0	902,000
1,018.0	946,000
1,020.0	992,000

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	921.800	906400	915200	924000	921800	930600	937200	957500	962100	964400	971300	943800
2	921.800	906400	915200	924000	921800	930600	937200	959400	964400	964400	969000	946000
3	921.800	906400	915200	924000	921800	930600	939400	959400	964400	964400	969000	948300
4	921.800	906400	917400	924000	921800	930600	919400	959400	964400	965100	969000	950600
5	921.800	906600	917400	924000	921800	930600	941600	959400	964400	966700	966700	950600
6	921.800	910800	917400	924000	924000	930600	941600	959400	964400	959800	962100	950600
7	921.800	913000	917400	921800	924000	932800	943800	959400	964400	962100	959800	948300
8	921.800	913000	919600	919600	924000	932800	943800	957500	962100	964400	957500	948300
9	917400	915200	919600	917400	924000	932800	943800	957500	962100	966700	955200	946000
10	913000	915200	919600	919600	924000	932800	943800	957500	959800	966700	950600	943800
11	910800	915200	919600	919600	924000	932800	943800	957500	959800	973600	948300	943800
12	910800	915200	919600	919600	924000	932800	943800	959400	957500	978200	946000	943800
13	910800	915200	919600	919600	924000	932800	943800	957500	957500	975900	943800	946000
14	906400	915200	919600	919600	924000	932800	943800	957500	955200	973600	943800	946000
15	904200	915200	921800	919600	926200	935000	946000	957500	955200	971300	943800	946000
16	904200	915200	921800	919600	926200	932800	946000	959400	952900	969000	943800	946000
17	904200	915200	921800	921800	926200	932800	948300	959400	950600	982800	943800	946000
18	904200	915200	921800	921800	926200	932800	950600	959400	950600	987400	943800	946000
19	904200	915200	921800	921800	926200	932800	950600	959400	955200	985100	943800	946000
20	904200	915200	915200	921800	926200	935000	952900	959400	955200	982800	943800	946000
21	904200	915200	915200	921800	926200	932800	952900	959400	955200	980500	943800	946000
22	904200	915200	917400	921800	926200	935000	955200	959400	955200	978200	943800	946000
23	904200	915200	917400	921800	926200	935000	955200	959400	955200	978200	943800	946000
24	904200	915200	921800	924000	926200	937200	957500	959400	955200	975900	943800	948300
25	904200	915200	921800	924000	926200	937200	957500	957500	964400	973600	943800	950600
26	904200	915200	921800	921800	926200	939400	957500	959400	966700	973600	943800	952900
27	904200	913000	921800	919600	926200	937200	957500	959400	966700	971300	943800	950600
28	904200	915200	921800	919600	926200	937200	962100	959400	966700	971300	943800	950600
29	904200	915200	921800	919600	926200	937200	957500	959400	966700	973600	943800	950600
30	904200	915200	921800	921800	---	939400	957500	959400	966700	971300	943800	950600
31	904200	---	921800	921800	---	939400	---	962100	---	971300	943800	---
(T)	1016.1	1016.6	1016.9	1016.9	1017.2	1017.7	1018.5	1018.7	1018.9	1019.1	1017.9	1018.2
(*)	-17600	+11000	+6600	0	+6600	+11000	+18100	+4600	+4600	+4600	-27500	+6800
MAX	921800	915200	921800	924000	928400	939400	962100	962100	966700	987400	971300	952900
MIN	904200	906400	915200	917400	921800	930600	937200	957500	950600	959800	943800	943800
CAL YR 1975.....	* -65600				MAX	992000	MIN 904200					
WTR YR 1976.....	* +28800				MAX	987400	MIN 904200					

+ Gage height, in feet, at end of month.

* Change in contents, in acre-feet.

08148500 North Llano River near Junction, Tex.

LOCATION.--Lat 30°31'06", long 99°48'39", Kimble County, on left bank 1,000 ft (305 m) upstream from remains of old Wilson Dam, 2.1 miles (3.4 km) northwest of Junction, and 4.1 miles (6.6 km), revised, upstream from confluence with South Llano River.

DRAINAGE AREA.--914 mi² (2,367 km²).

PERIOD OF RECORD.--September 1915 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,699.92 ft (518.136 m) above mean sea level. Prior to Aug. 1, 1925, nonrecording gage at site 550 ft (168 m) downstream at same datum. Aug. 1, 1925, to Sept. 15, 1936, water-stage recorder 520 ft (158 m) downstream at same datum. Sept. 16, 1936, to June 22, 1940, nonrecording gages at various sites at same datum.

AVERAGE DISCHARGE.--61 years, 69.1 ft³/s (1.957 m³/s), 1.03 in/yr (26 mm/yr), 50,060 acre-ft/yr (61.7 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 29,000 ft³/s (821 m³/s) Sept. 1 (gage height, 13.24 ft or 4.036 m); minimum, 20 ft³/s (0.57 m³/s) July 2, 3.

Period of record: Maximum discharge, 94,800 ft³/s (2,680 m³/s) Sept. 16, 1936 (gage height, 29.2 ft or 8.90 m, present site, based on gage-height relation curve), from rating curve extended above 68,000 ft³/s (1,930 m³/s) on basis of slope-area measurement of 94,800 ft³/s (2,680 m³/s); no flow at times most years.

Maximum stage since at least 1875, that of Sept. 16, 1936; maximum stage during period 1875 to Sept. 15, 1936, 27 ft (8.2 m) in 1889, from information by local resident.

REVISIONS.--The figures of maximum discharge for some water years have been revised, as shown in the following table. They supersede figures published in the water-supply papers or water-data reports indicated.

WSP	Water year	Date	Discharge (ft ³ /s)	Gage height (in feet)	
				(inside)	(outside)
958, 1312	1942	Aug. 22, 1942	41,400	16.52	17.60
1118, 1312	1948	June 24, 1948	42,400	16.77	17.85
1512, 1732	1957	May 27, 1957	33,400	14.47	15.60
1562, 1732	1958	Oct. 14, 1957	22,400	11.76	12.54
1632, 1732	1959	June 26, 1959	16,700	10.34	10.81
1922	1961	June 18, 1961	38,200	15.72	16.80
1922	1964	Sept. 24, 1964	29,200	13.30	14.49
2122	1970	May 15, 1970	26,100	12.56	13.60
WRD Texas	1971	July 25, 1971	21,400	11.53	12.26

REMARKS.--Records good. Diversions for irrigation of about 500 acres (202 hm²) will materially affect low flow.

REVISIONS (WATER YEARS).--WSP 568: 1920, 1922. WSP 1512: 1915, 1918-19, 1923(M), 1924-26, 1928, 1930(M), 1931-33, 1934(M), 1935.

REVISED PEAK DISCHARGE.--1958: Oct. 14 (2100) 22,400 ft³/s (11.76 ft inside, or 12.54 ft outside); Feb. 22 (2130) 17,600 ft³/s (10.60 ft inside, or 11.09 ft outside).

1974: Oct. 13 (0730) 28,300 ft³/s (13.04 ft inside, or 14.23 ft outside); Aug. 12 (0900) 17,900 ft³/s (10.66 ft inside, or 11.19 ft outside); Aug. 30 (0400) 30,900 ft³/s (13.79 ft inside, or 14.97 ft outside); Sept. 17 (1900) 24,700 ft³/s (12.25 ft inside, or 13.20 ft outside).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57	65	65	54	49	45	43	42	32	22	47	8150
2	57	89	65	54	48	44	42	41	32	21	45	2320
3	57	141	64	54	48	45	43	39	31	24	43	505
4	57	104	64	54	48	45	42	38	30	43	42	238
5	53	95	64	54	48	43	53	46	31	39	41	175
6	57	90	62	56	47	43	49	48	32	41	39	147
7	56	87	62	56	47	46	48	53	31	35	38	131
8	56	84	62	54	48	48	46	52	31	35	37	116
9	56	84	62	54	49	48	44	48	30	46	36	105
10	55	81	62	54	48	46	44	46	29	51	34	96
11	54	80	62	54	48	46	44	44	28	58	33	90
12	54	78	60	53	48	51	43	46	27	62	31	85
13	54	76	60	52	47	47	43	50	27	63	31	82
14	53	76	62	52	47	47	43	44	26	71	30	77
15	53	76	62	52	47	45	48	41	25	66	30	73
16	139	76	62	51	47	45	56	40	30	65	29	69
17	99	75	60	51	48	44	51	39	30	452	30	68
18	79	74	59	51	47	44	49	38	29	109	32	66
19	72	74	59	52	47	44	46	39	38	84	33	69
20	70	72	59	51	47	44	50	42	33	74	32	114
21	67	71	59	51	46	43	46	42	30	68	30	234
22	66	71	59	51	45	43	44	40	28	66	30	126
23	67	70	57	51	45	47	43	37	27	67	29	96
24	65	70	59	52	45	51	43	37	26	63	28	83
25	68	69	60	52	45	48	41	45	27	62	27	76
26	71	69	60	51	46	46	40	41	29	61	33	92
27	68	69	59	51	45	46	40	37	27	59	31	126
28	67	69	56	50	45	45	42	35	27	55	54	101
29	65	69	56	50	45	45	41	34	25	50	41	87
30	65	66	54	50	---	44	43	33	23	49	38	80
31	66	---	54	50	---	44	---	33	---	48	39	---
TOTAL	2028	2370	1870	1622	1360	1412	1370	1290	871	2109	1093	13877
MEAN	65.4	79.0	60.3	52.3	46.9	45.5	45.7	41.6	29.0	68.0	35.3	463
MAX	139	141	65	56	49	51	62	53	38	452	54	8150
MIN	53	65	54	50	45	43	40	33	23	21	27	66
CFSM	.07	.09	.07	.06	.05	.05	.05	.05	.03	.07	.04	.51
IN.	.08	.10	.08	.07	.06	.06	.06	.05	.04	.09	.04	.56
AC-FT	4020	4700	3710	3220	2700	2800	2720	2560	1730	4180	2170	27530

CAL YR 1975 TOTAL 36176 MEAN 99.1 MAX 1050 MIN 53 CFSM .11 IN 1.47 AC-FT 71760
WTR YR 1976 TOTAL 31272 MEAN 85.4 MAX 8150 MIN 21 CFSM .09 IN 1.27 AC-FT 62030

PEAK DISCHARGE (BASE, 1,200 FT³/S).--July 17 (0330) 1,550 ft³/s (4.06 ft); Sept. 1 (2030) 29,000 ft³/s (13.24 ft).

COLORADO RIVER BASIN

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08150000 Llano River near Junction, Tex.

LOCATION (revised).--Lat 30°29'45", long 99°43'19", Kimble County, on right bank 600 ft (180 m) north of Farm Road 2169, 1.4 miles (2.3 km) east of Junction, 3.6 miles (5.8 km) downstream from bridge on Interstate Highway 10, 3.9 miles (6.3 km) downstream from confluence of North Llano and South Llano Rivers, 4.3 miles (6.9 km) upstream from Johnson Fork, and at mile 106.7 (171.7 km).

DRAINAGE AREA.--1,874 mi² (4,854 km²).

PERIOD OF RECORD.--September 1915 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,630.32 ft (496.922 m) above mean sea level. Prior to Aug. 14, 1925, nonrecording gage, and Aug. 14, 1925, to May 17, 1940, water-stage recorder at present site and datum. May 18, 1940, to Aug. 17, 1944, water-stage recorder at site 5,330 ft (1,620 m) upstream at datum 6.0 ft (1.83 m) higher. Since Aug. 18, 1944, gage at site 5,330 ft (1,620 m) upstream has been used as an auxiliary gage for stages above 5 ft (1.5 m).

AVERAGE DISCHARGE.--61 years, 191 ft³/s (5.409 m³/s), 1.38 in/yr (35 mm/yr), 138,400 acre-ft/yr (171 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 25,700 ft³/s (728 m³/s) Sept. 1 (gage height, 17.33 ft or 5.282 m); minimum, 110 ft³/s (3.12 m³/s) June 14, July 2, 3.

Period of record: Maximum discharge, 319,000 ft³/s (9,030 m³/s) June 14, 1935 (gage height, 41.4 ft or 12.62 m at auxiliary gage, from floodmarks), from rating curve extended above 54,000 ft³/s (1,530 m³/s) on basis of slope-area measurements of 154,000 and 319,000 ft³/s (4,360 and 9,030 m³/s); minimum, 3.1 ft³/s (0.088 m³/s) Aug. 16, 17, 1956.

Maximum stage since at least 1875, that of June 14, 1935. There was a major flood in 1889 which was the highest known until 1935.

REMARKS.--Records good. Diversions above station for irrigation.

REVISIONS (WATER YEARS).--WSP 568: 1915-16, 1918-20, 1922. WSP 1342: Drainage area. WSP 1922: 1920, 1923.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	179	186	186	181	170	160	155	155	131	118	144	6290
2	178	211	187	180	170	159	154	151	129	115	142	2880
3	177	259	188	177	169	158	155	149	125	113	138	685
4	177	236	189	178	169	158	196	147	124	157	139	383
5	178	217	189	180	169	154	195	161	127	213	139	299
6	179	211	186	180	168	155	172	167	142	168	134	262
7	177	209	185	178	169	161	166	179	131	153	132	249
8	178	205	185	177	169	166	162	174	128	151	129	238
9	177	205	185	177	168	163	159	166	126	162	124	219
10	178	202	185	178	167	160	158	161	123	171	123	205
11	177	202	185	178	167	159	158	157	121	184	122	199
12	176	197	185	177	165	164	156	159	121	181	121	192
13	176	198	185	177	165	161	156	169	120	183	119	189
14	173	198	186	175	165	160	155	154	116	207	118	185
15	174	198	185	174	165	159	162	150	116	207	116	178
16	241	198	185	173	164	155	185	149	133	203	115	180
17	234	198	183	173	173	154	172	146	128	548	116	176
18	205	197	181	173	164	155	172	143	125	242	124	183
19	196	196	181	173	164	155	164	145	147	202	127	186
20	194	193	181	172	165	157	170	149	140	187	124	187
21	192	193	181	173	164	155	163	146	129	180	120	339
22	190	193	182	173	161	155	159	143	125	176	118	246
23	192	193	181	173	162	168	158	139	121	176	117	221
24	190	193	187	176	160	183	158	136	118	171	115	221
25	201	193	186	181	161	169	154	145	224	168	115	221
26	205	190	183	177	161	163	151	140	136	167	119	240
27	196	191	182	174	161	159	152	135	136	164	123	273
28	193	193	181	173	161	158	156	132	127	157	144	272
29	191	194	179	173	161	156	159	129	124	152	149	272
30	189	190	177	173	---	156	156	129	121	149	133	272
31	187	---	180	171	---	155	---	129	---	146	135	---
TOTAL	5850	6033	5701	5448	4797	4949	4888	4634	3913	5671	3934	16142
MEAN	189	201	184	176	165	160	163	149	130	183	127	538
MAX	241	259	189	181	173	183	196	179	224	548	149	6290
MIN	173	186	177	171	160	154	151	129	116	113	115	176
CFSM	.10	.11	.10	.09	.09	.09	.09	.08	.07	.10	.07	.29
IN.	.12	.12	.11	.11	.10	.10	.10	.09	.08	.11	.08	.32
AC-FT	11600	11970	11310	10810	9510	9820	9700	9190	7760	11250	7800	32020
CAL YR 1975 TOTAL	87401			MEAN 239	MAX 2300	MIN 171	CFSM .13	IN 1.74	AC-FT 173400			
WTR YR 1976 TOTAL	71960			MEAN 197	MAX 6290	MIN 113	CFSM .11	IN 1.43	AC-FT 142700			

PEAK DISCHARGE (BASE, 1,500 FT³/S).--Sept. 1 (2130) 25,700 ft³/s (17.33 ft, from auxiliary gage).

COLORADO RIVER BASIN

08150700 Llano River near Mason, Tex.

LOCATION.--Lat 30°39'35", long 99°06'29", Mason County, on right bank 98 ft (30 m) downstream from downstream bridge on U.S. Highway 87, 1.0 mile (1.6 km) upstream from Beaver Creek, 9.1 miles (14.6 km) southeast of Mason, 10.2 miles (16.4 km) downstream from James River, and at mile 54.5 (87.7 km).

DRAINAGE AREA.--3,280 mi² (8,500 km²).

PERIOD OF RECORD.--March 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,230.36 ft (375.014 m) above mean sea level. Prior to Jan. 19, 1971, at site 190 ft (58 m) upstream at same datum.

AVERAGE DISCHARGE.--8 years, 359 ft³/s (10.17 m³/s), 1.49 in/yr (38 mm/yr), 260,100 acre-ft/yr (321 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 26,900 ft³/s (762 m³/s) Sept. 2 (gage height, 12.48 ft or 3.804 m); minimum, 108 ft³/s (3.06 m³/s) June 13.

Period of record: Maximum discharge, 151,000 ft³/s (4,280 m³/s) Oct. 13, 1973 (gage height, 26.30 ft or 8.016 m), from rating curve extended above 59,000 ft³/s (1,670 m³/s) on basis of slope-area measurement of peak flow; minimum, 16 ft³/s (0.45 m³/s) July 23, 1971. Maximum flood since at least 1875 occurred June 14, 1935 (discharge, 388,000 ft³/s or 11,000 m³/s), based on slope-area measurement of peak flow at site 17.0 miles (27.4 km) downstream.

REMARKS.--Records good.

REVISIONS (WATER YEARS).--WRD TX-75-1: 1968(P).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	221	236	225	209	198	176	152	186	131	179	183	190
2	219	242	221	209	196	176	152	179	128	166	176	9070
3	215	303	221	209	194	174	152	174	132	156	172	2000
4	217	313	225	209	195	171	266	165	128	567	166	1000
5	219	297	229	209	196	169	412	166	125	495	162	654
6	220	277	229	213	194	166	391	191	169	382	162	473
7	217	269	221	207	195	166	282	211	169	270	159	377
8	218	256	221	205	195	174	240	221	154	201	156	337
9	213	252	221	204	196	181	208	216	140	192	147	322
10	212	248	221	209	194	182	198	209	134	333	146	319
11	216	248	221	207	196	178	194	194	127	345	143	271
12	214	244	225	208	194	186	186	190	119	379	137	248
13	211	244	221	206	192	181	182	250	111	305	131	234
14	209	244	221	204	189	177	179	235	113	300	127	221
15	206	240	221	203	190	175	184	195	116	307	125	209
16	410	240	221	200	186	169	255	176	167	810	123	194
17	316	240	217	200	196	166	273	169	128	2000	125	183
18	319	240	213	200	209	162	261	159	140	1010	134	176
19	269	237	213	196	198	162	242	154	141	472	152	176
20	249	229	213	196	191	162	247	156	169	352	144	176
21	242	229	217	197	196	156	230	162	164	313	142	179
22	240	229	217	196	186	156	212	168	145	304	138	274
23	242	225	217	198	185	164	193	208	133	286	132	318
24	237	229	225	198	183	210	191	176	131	273	128	244
25	242	229	237	214	183	243	186	161	1100	256	123	209
26	273	225	233	214	183	203	179	160	513	248	129	209
27	274	225	225	209	183	175	172	162	290	233	126	248
28	261	225	221	206	179	168	169	156	244	225	131	256
29	252	233	217	202	176	166	222	148	213	217	137	252
30	242	229	213	200	---	162	205	141	194	201	186	229
31	240	---	209	203	---	156	---	137	---	186	183	---
TOTAL	7535	7377	6851	6340	5548	5412	6615	5575	5868	11963	4525	19248
MEAN	243	246	221	205	191	175	221	180	196	386	146	642
MAX	410	313	237	214	209	243	412	250	1100	2000	186	9070
MIN	206	225	209	196	176	156	152	137	111	156	123	176
CFSM	.07	.08	.07	.06	.06	.05	.07	.05	.06	.12	.04	.20
IN.	.09	.08	.08	.07	.06	.06	.08	.06	.07	.14	.05	.22
AC-FT	14950	14630	13590	12580	11000	10730	13120	11060	11640	23730	8980	38160

CAL YR 1975 TOTAL 132798 MEAN 364 MAX 3090 MIN 206 CFSM .11 IN 1.51 AC-FT 263400
WTR YR 1976 TOTAL 92857 MEAN 254 MAX 9070 MIN 111 CFSM .08 IN 1.05 AC-FT 184200

PEAK DISCHARGE (BASE, 3,000 FT³/S).--July 17 (1100) 6,880 ft³/s (7.22 ft); Sept. 2 (0730) 26,900 ft³/s (12.48 ft).

COLORADO RIVER BASIN

143

08150800 Beaver Creek near Mason, Tex.

LOCATION.--Lat 30°38'36", long 99°05'44", Mason County, on left bank at upstream side of bridge on U.S. Highway 87, 1.4 miles (2.3 km) upstream from Llano River, 6.4 miles (10.3 km) downstream from Spring Creek, and 11.1 miles (17.9 km) southeast of Mason.

DRAINAGE AREA.--218-mi² (565 km²).

PERIOD OF RECORD.--July 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,253.24 ft (381.988 m) above mean sea level.

AVERAGE DISCHARGE.--13 years, 18.4 ft³/s (0.521 m³/s), 1.15 in/yr (29 mm/yr), 13,330 acre-ft/yr (16.4 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 1,710 ft³/s (48.4 m³/s) Oct. 16 (gage height, 5.29 ft or 1.612 m); minimum, 0.09 ft³/s (0.003 m³/s) Aug. 16, 17.

Period of record: Maximum discharge, 23,200 ft³/s (657 m³/s) May 16, 1965 (gage height, 13.58 ft or 4.139 m), from rating curve extended above 7,400 ft³/s (210 m³/s) on basis of slope-area measurement at gage height 12.50 ft (3.810 m); no flow at times most years.

CORRECTIONS.--The date of the peak discharge for water year 1971 published in WRD Texas, 1971, as Aug. 24 has been corrected to July 24 (1930) 1,040 ft³/s (4.50 ft).

REMARKS.--Records fair. No known regulation or diversion above station.

REVISIONS (WATER YEARS).--WSP 2122: 1964-65.

DISCHARGE* IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	5.5	3.8	3.8	3.8	2.6	3.0	10	1.4	5.0	.92	6.7
2	2.9	9.1	3.2	3.7	3.8	2.6	2.8	7.4	1.5	4.0	.74	5.6
3	2.6	21	3.4	3.5	3.8	2.4	2.5	5.8	2.8	3.4	.70	71
4	2.6	7.7	4.0	3.5	3.8	2.4	3.9	5.1	2.3	17	.61	24
5	2.7	7.2	4.2	3.5	3.8	2.4	32	4.8	1.9	14	.57	9.8
6	2.9	6.8	4.4	4.0	3.5	2.4	18	5.8	1.9	6.2	.56	6.4
7	2.9	6.4	4.1	4.0	3.5	2.4	10	4.9	1.7	4.5	.44	4.2
8	2.9	6.4	3.8	4.1	3.5	4.1	7.9	15	1.5	4.5	.32	3.6
9	2.6	6.4	4.0	4.1	3.5	5.4	5.8	11	1.5	5.7	.32	3.7
10	2.2	5.9	4.1	4.1	3.5	5.3	4.8	9.9	1.3	11	.30	2.8
11	2.2	5.5	4.1	4.1	3.5	4.4	4.4	8.8	1.2	31	.23	2.0
12	2.1	5.5	4.3	4.1	3.5	4.7	4.7	8.9	.99	28	.22	1.9
13	2.1	5.5	4.1	3.8	3.5	5.6	4.1	10	.79	17	.18	2.1
14	1.8	5.5	4.2	3.8	3.5	6.0	4.0	8.6	.66	14	.17	1.7
15	1.7	5.2	4.3	4.1	3.5	5.3	4.2	6.6	.67	18	.11	1.7
16	287	5.2	4.4	4.4	3.2	4.6	14	4.9	10	13	.11	1.7
17	34	4.8	4.9	4.3	3.2	3.9	15	4.8	14	9.2	.11	2.2
18	12	4.4	4.5	4.1	3.2	3.6	10	4.4	5.6	6.5	.15	2.4
19	7.7	4.1	4.1	4.0	3.2	3.5	8.3	3.6	3.8	4.9	.14	1.7
20	5.2	3.8	4.1	3.8	2.4	3.5	9.2	3.2	3.5	4.0	.19	1.8
21	3.4	3.5	4.1	3.4	2.9	3.3	9.4	3.8	3.4	3.1	1.1	2.3
22	2.9	3.5	4.1	4.1	3.2	3.2	6.8	4.5	2.6	2.9	.90	2.4
23	2.4	3.7	4.1	4.1	3.3	3.8	5.5	3.9	1.5	3.1	.75	1.7
24	1.9	3.8	6.5	4.1	2.7	10	5.5	3.1	1.1	3.0	.67	1.4
25	1.9	3.9	10	4.1	2.6	11	5.3	2.6	6.7	2.5	.55	1.1
26	53	3.8	6.9	4.1	2.6	6.6	4.1	2.6	21	2.3	.61	1.4
27	49	3.7	5.0	4.1	2.6	4.4	3.8	2.4	33	2.1	.66	4.4
28	16	4.1	4.5	4.1	2.6	3.4	3.8	2.1	12	1.7	.68	10
29	9.6	4.6	4.2	4.1	2.6	2.9	31	1.8	7.7	1.3	.62	7.6
30	6.4	4.6	4.1	4.1	---	2.9	18	1.7	6.0	1.2	5.1	5.9
31	5.9	---	4.0	4.1	---	2.9	---	1.5	---	1.0	5.3	---
TOTAL	535.7	171.1	139.5	123.6	94.8	131.5	261.8	177.5	154.0	245.1	24.07	195.2
MEAN	17.3	5.70	4.50	3.99	3.27	4.24	8.73	5.73	5.13	7.91	.78	6.51
MAX	287	21	10	4.4	3.4	11	32	15	33	31	5.3	71
MIN	1.7	3.5	3.2	3.5	2.6	2.4	2.5	1.5	.66	1.0	.11	1.1
CFSM	.08	.03	.02	.02	.02	.02	.04	.03	.02	.04	.003	.03
IN	.09	.03	.02	.02	.02	.02	.04	.03	.03	.04	.004	.03
AC-FT	1060	339	277	245	188	261	519	352	305	486	48	387

CAL YR 1975 TOTAL 12222.50 MEAN 33.5 MAX 2120 MIN 1.7 CFSM .15 IN 2.09 AC-FT 24240
WTR YR 1976 TOTAL 2253.88 MEAN 6.16 MAX 287 MIN .11 CFSM .03 IN .38 AC-FT 4470

PEAK DISCHARGE (BASE, 1,000 FT³/S).--Oct. 16 (0445) 1,710 ft³/s (5.29 ft).

NOTE.--No gage height record Oct. 19 to Nov. 18.

COLORADO RIVER BASIN

08151500 Llano River at Llano, Tex.

LOCATION.--Lat 30°45'04", long 98°40'10", Llano County, on right bank in Llano, 0.4 mile (0.6 km) downstream from bridge on State Highway 16, 7 miles (11 km) upstream from Little Llano River, and at mile 24.2 (38.9 km).

DRAINAGE AREA.--4,233 mi² (10,963 km²).

PERIOD OF RECORD.--September 1939 to current year.

GAGE.--Water-stage recorder. Datum of gage is 970.01 ft (295.659 m) above mean sea level.

AVERAGE DISCHARGE.--37 years, 353 ft³/s (9.997 m³/s), 255,700 acre-ft/yr (315 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 61,500 ft³/s (1,740 m³/s) July 4 (gage height, 17.92 ft or 5.462 m); minimum, 110 ft³/s (3.12 m³/s) Aug. 17.

Period of record: Maximum discharge, 232,000 ft³/s (6,570 m³/s) Sept. 10, 1952 (gage height, 32.6 ft or 9.94 m), from rating curve extended above 129,000 ft³/s (3,650 m³/s) on basis of slope-area measurement of 232,000 ft³/s (6,570 m³/s); no flow at times in 1952-56, 1964.

Maximum stage since at least 1879, 41.5 ft (12.65 m) June 14, 1935, discharge, 380,000 ft³/s (10,800 m³/s), from information by local resident.

REMARKS.--Records good. Many small diversions above station. Part of low flow of Llano River disappears into various formations, many of which are faulted, between stations near Junction and Llano.

REVISIONS.--WSP 1342: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	227	231	228	246	218	185	145	315	209	202	195	194
2	217	259	221	241	212	186	145	261	157	177	186	6080
3	210	276	217	236	209	179	143	226	149	166	179	3310
4	210	338	220	230	207	175	163	208	146	9120	172	1320
5	212	356	227	230	211	160	420	201	142	793	169	786
6	218	355	224	236	209	158	477	199	136	439	164	558
7	218	312	223	230	206	159	422	238	152	428	159	433
8	216	290	221	220	208	186	365	280	186	380	156	371
9	220	276	219	220	211	186	289	278	170	319	149	339
10	221	263	217	225	212	198	243	271	154	356	143	364
11	224	259	221	220	218	203	223	248	143	3230	136	321
12	221	244	223	220	221	216	210	237	136	1210	132	279
13	213	238	223	220	213	206	206	276	130	709	128	256
14	206	235	226	220	208	197	201	301	124	548	124	244
15	200	236	228	220	203	189	209	282	121	587	118	234
16	203	239	224	218	207	181	286	232	149	1870	117	247
17	617	245	212	214	213	169	324	202	179	2400	113	234
18	390	242	203	211	214	162	323	188	168	2020	124	218
19	364	241	201	215	235	157	300	180	235	979	140	213
20	296	227	205	210	225	152	300	183	203	580	151	214
21	260	214	205	209	193	141	291	180	178	429	149	208
22	252	214	206	205	188	135	270	179	178	369	145	207
23	247	216	216	207	183	175	241	179	159	332	139	260
24	242	218	303	216	180	309	222	270	141	310	131	305
25	258	221	308	240	178	318	208	227	244	293	124	255
26	268	217	302	244	182	340	197	195	802	280	124	257
27	302	222	296	244	187	258	190	173	433	263	124	248
28	310	224	279	240	187	209	197	171	365	245	146	285
29	279	238	262	236	187	181	618	162	313	230	135	276
30	258	231	251	230	---	164	438	153	241	218	142	274
31	242	---	251	225	---	157	---	178	---	203	169	---
TOTAL	8021	7582	7262	6978	5925	5991	8266	6873	6243	29685	4483	18790
MEAN	259	253	234	225	204	193	276	222	208	958	145	626
MAX	617	356	308	246	235	340	618	315	802	9120	195	6080
MIN	200	214	201	205	178	135	143	153	121	166	113	194
AC-FT	15910	15040	14400	13840	11750	11880	16400	13630	12380	58880	8890	37270

CAL YR 1975 TOTAL 206846 MEAN 567 MAX 7260 MIN 200 AC-FT 410300
WTR YR 1976 TOTAL 116099 MEAN 317 MAX 9120 MIN 113 AC-FT 230300

PEAK DISCHARGE (BASE, 7,500 FT³/S).--July 4 (0800) 61,500 ft³/s (17.92 ft); Sept. 2 (1445) 20,900 ft³/s (11.25 ft).

COLORADO RIVER BASIN

145

08152000 Sandy Creek near Kingsland, Tex.

LOCATION.--Lat 30°33'30", long 98°28'19", Llano County, on left bank at downstream side of bridge on State Highway 71, 3.9 miles (6.3 km) upstream from Lake Lyndon B. Johnson, and 7.3 miles (11.7 km) south of Kingsland.

DRAINAGE AREA.--327 mi² (847 km²).

PERIOD OF RECORD.--Discharge: October 1966 to current year.

Water quality: Sediment records: January 1968 to September 1975.

GAGE.--Water-stage recorder. Datum of gage is 862.31 ft (262.832 m) above mean sea level.

AVERAGE DISCHARGE.--10 years, 66.3 ft³/s (1.878 m³/s), 2.75 in/yr (70 mm/yr), 48,030 acre-ft/yr (59.2 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 7,020 ft³/s (199 m³/s) Sept. 2 (gage height, 10.72 ft or 3.267 m); minimum daily, 3.7 ft³/s (0.10 m³/s) Aug. 28.

Period of record: Maximum discharge, 14,100 ft³/s (399 m³/s) Oct. 31, 1974 (gage height, 13.58 ft or 4.139 m); no flow at times most years.

The flood of Sept. 11, 1952, which was the highest since at least 1881, reached a stage of 34.2 ft or 10.42 m (discharge, 163,000 ft³/s or 4,620 m³/s), from slope-area measurement at gage site.

REMARKS.--Discharge records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.2	10	9.3	13	12	7.0	6.5	36	110	48	27	14
2	6.4	12	9.3	13	11	7.0	6.1	23	30	39	22	1790
3	6.1	18	9.3	11	11	6.5	6.1	20	17	32	19	462
4	6.1	15	9.4	11	10	6.5	9.3	16	12	1490	15	221
5	6.1	14	10	11	11	6.5	27	19	11	861	14	129
6	6.1	14	11	11	11	8.3	29	18	9.6	327	12	147
7	6.1	13	10	11	11	12	28	20	9.3	248	11	92
8	6.1	13	10	11	11	16	60	22	9.0	194	9.8	73
9	6.0	12	10	11	11	14	40	22	8.7	161	8.8	809
10	5.8	12	10	11	11	13	28	22	8.0	211	8.8	761
11	5.7	11	10	11	11	12	22	26	6.9	1280	8.3	172
12	5.7	10	10	11	11	24	17	35	6.0	634	7.4	103
13	5.7	9.4	10	11	11	31	13	97	5.7	338	7.0	76
14	5.4	9.3	10	11	11	22	12	40	5.6	310	6.1	60
15	5.4	9.3	11	10	10	16	9.8	25	5.8	284	5.4	50
16	5.4	9.2	15	10	9.3	13	34	22	7.4	244	5.0	42
17	5.4	9.3	13	9.8	12	13	40	20	6.6	194	5.4	40
18	5.4	10	11	9.8	11	12	37	19	6.2	165	8.8	33
19	5.4	11	12	9.7	9.7	11	33	19	11	118	10	37
20	5.4	11	12	9.3	9.4	11	39	26	11	101	8.8	132
21	5.4	10	11	9.3	11	10	39	32	8.1	92	7.4	103
22	5.9	9.8	11	9.3	7.7	9.3	26	25	7.0	83	7.0	56
23	8.1	9.8	11	9.3	7.6	10	18	22	6.1	74	6.1	45
24	8.3	9.8	34	11	7.7	14	14	77	6.1	67	5.4	36
25	27	9.8	58	16	7.4	14	11	76	111	81	5.0	29
26	37	9.4	43	14	7.0	12	8.8	39	765	92	4.4	28
27	25	9.8	29	13	7.0	9.3	7.0	29	476	64	4.0	32
28	19	10	21	13	7.0	8.3	8.3	26	156	52	3.7	27
29	13	11	17	13	7.0	7.9	169	20	92	43	4.0	26
30	11	10	15	13	---	7.9	82	18	62	34	14	24
31	11	---	15	13	---	7.9	---	27	---	30	10	---
TOTAL	287.4	332.4	477.3	350.5	284.8	372.4	879.9	938	1986.1	7991	290.6	5649
MEAN	9.28	11.1	15.4	11.3	9.82	12.0	29.3	30.3	66.2	258	9.37	188
MAX	37	18	58	16	12	31	169	97	765	1490	27	1790
MIN	5.4	9.3	9.3	9.3	7.0	6.5	6.1	16	5.6	30	3.7	14
CFSM	.03	.03	.05	.03	.03	.04	.09	.09	.20	.79	.03	.57
IN.	.03	.04	.05	.04	.03	.04	.10	.11	.23	.91	.03	.64
AC-FT	570	659	947	695	565	739	1750	1860	3940	15850	576	11200

CAL YR 1975 TOTAL 41826.6 MEAN 115 MAX 3050 MIN 4.1 CFSM .35 IN 4.76 AC-FT 82960
WTR YR 1976 TOTAL 19839.6 MEAN 54.2 MAX 1790 MIN 3.7 CFSM .17 IN 2.26 AC-FT 39350

PEAK DISCHARGE (BASE, 1,000 FT³/S)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
6-26	2100	9.80	5,140	9-2	0630	10.72	7,020
7-4	1530	9.05	3,860	9-9	2130	9.80	5,140
7-11	1600	7.70	1,770				

08153500 Pedernales River near Johnson City, Tex.

LOCATION.--Lat 30°17'27", long 98°24'01", Blanco County, near center of span at downstream side of bridge on U.S. Highway 281, 0.2 mile (0.3 km) downstream from Towhead Creek, 1.1 miles (1.8 km) northeast of Johnson City, 3.4 miles (5.5 km) downstream from Buffalo Creek, and at mile 48.2 (77.6 km).

DRAINAGE AREA.--947 mi² (2,453 km²).

PERIOD OF RECORD.--Discharge: May 1939 to current year.

Water quality: Chemical analyses: April 1948 to September 1950, October 1971 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,096.70 ft (334.274 m) above mean sea level. May 4 to Sept. 13, 1939, nonrecording gage, and Sept. 14, 1939, to Sept. 10, 1952, water-stage recorder at unstream side of bridge at same datum. Sept. 11, 1952, to June 29, 1953, nonrecording gage, and June 30, 1953, to Oct. 7, 1954, water-stage recorder at site 360 ft (110 m) downstream at same datum.

AVERAGE DISCHARGE.--37 years, 170 ft³/s (4.814 m³/s), 123,200 acre-ft/yr (152 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 16,800 ft³/s (476 m³/s) June 26 (gage height, 14.66 ft or 4.468 m); minimum daily, 39 ft³/s (1.10 m³/s) Apr. 1, 2.

Period of record: Maximum discharge, 441,000 ft³/s (12,500 m³/s) Sept. 11, 1952 (gage height, 42.5 ft or 12.95 m, from floodmark), from rating curve extended above 116,000 ft³/s (3,290 m³/s) on basis of slope-area measurement of 441,000 ft³/s (12,500 m³/s); no flow at times in 1951-52, 1954, 1956-57, 1963-64, 1967-68, 1971.

Maximum stage since at least 1859, 42.5 ft (12.95 m) Sept. 11, 1952; flood of July 1869 reached a stage of 33 ft (10.1 m), from information by local residents.

REMARKS.--Discharge records good. Some diversions above station for irrigation. Flow at times is affected by discharge from the flood-detention pools of four floodwater-retarding structures with combined detention capacity of 5,160 acre-ft (6.36 hm³). These structures control runoff from 15.6 mi² (40.4 km²) above this station. During year, the city of Fredericksburg discharged 568 acre-ft (700,000 m³) of sewage effluent into the river. Records furnished by the city of Johnson City show that 144 acre-ft (178,000 m³) of water was diverted from pool at gage and 169 acre-ft (208,000 m³) of treated sewage effluent was returned to the river below gage.

REVISIONS (WATER YEARS).--WSP 1632: 1953(M), 1957, 1958(M).

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58	74	58	65	55	44	39	140	1580	131	155	107
2	57	75	57	63	55	45	39	116	282	115	147	625
3	57	76	57	62	54	45	41	99	191	104	140	1350
4	57	87	58	60	54	45	60	91	160	2460	134	323
5	56	79	57	59	53	42	130	100	141	1690	129	181
6	57	73	57	58	52	40	182	680	132	666	123	138
7	56	72	57	58	52	45	137	111	143	479	115	119
8	53	72	57	57	51	58	164	432	126	245	113	105
9	54	72	57	57	51	60	103	252	113	245	112	96
10	53	64	57	60	51	59	82	207	102	970	101	99
11	51	64	58	57	50	54	72	178	94	3230	96	90
12	51	61	58	59	50	52	68	162	88	1280	91	88
13	51	59	59	60	51	51	64	246	85	720	88	85
14	51	58	59	57	50	51	61	195	78	631	84	82
15	51	59	59	57	50	48	65	151	71	808	79	82
16	51	60	59	54	51	45	149	131	70	641	78	80
17	51	61	59	56	51	43	194	119	65	788	82	80
18	50	64	59	57	51	42	871	109	65	471	85	85
19	51	63	61	55	51	41	272	103	80	369	84	81
20	52	60	57	52	50	41	355	117	103	315	91	85
21	51	57	57	53	48	40	288	154	86	279	89	89
22	53	57	57	51	46	40	179	134	68	267	80	83
23	58	57	57	55	45	40	145	111	62	251	73	78
24	61	58	84	57	44	47	134	207	56	234	71	72
25	141	59	149	57	44	51	240	160	2030	320	64	71
26	194	59	128	57	44	47	118	1660	1950	333	64	70
27	146	60	97	57	44	45	105	325	1390	234	64	73
28	108	61	87	57	44	44	106	181	303	203	58	91
29	84	68	78	53	45	44	368	142	191	185	58	151
30	86	60	69	56	---	44	189	126	152	170	120	126
31	73	---	67	56	---	45	---	1060	---	160	124	---
TOTAL	2125	1949	2090	1772	1437	1438	5020	8499	10057	19084	2992	4885
MEAN	68.5	65.0	67.4	57.2	49.6	46.4	167	274	335	616	96.5	163
MAX	199	87	149	65	55	60	871	1660	2030	3230	155	1350
MIN	50	57	57	51	44	40	39	91	56	104	58	70
AC-FT	4210	3870	4150	3510	2850	2450	9960	16460	19950	37850	5930	9690
CAL YR 1975 TOTAL	150176											
WTR YR 1976 TOTAL	61344											
MEAN 411												
MAX 168												
MIN 50												
AC-FT 297900												
MIN 39												
AC-FT 121700												

PEAK DISCHARGE (BASE, 4,100 FT³/S)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
5-26	0400	12.39	5,460	6-26	2145	14.66	16,800
5-31	2230	13.63	10,700	7-4	1800	13.34	9,280
6-25	1115	12.20	4,790	7-11	1115	12.12	4,520

COLORADO RIVER BASIN

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08153500 Pedernales River near Johnson City, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)
OCT. 15...	1000	48	758	8.3	26.0	280	50	36	45	50
DEC. 01...	1207	51	785	8.3	14.5	290	56	42	46	50
JAN. 05...	1022	50	761	8.1	8.0	280	40	46	41	42
FEB. 17...	1005	51	792	8.2	21.5	290	56	43	45	51
MAR. 29...	1007	35	789	8.1	22.0	290	55	39	46	50
JUNE 21...	1000	87	629	8.2	--	250	36	42	35	32
AUG. 05...	1400	109	605	8.1	30.0	240	23	38	35	30
SEP. 17...	1325	77	617	8.3	28.0	240	36	38	35	34

DATE	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
OCT. 15...	1.3	2.8	274	0	40	84	.4	6.3	400
DEC. 01...	1.3	2.9	290	0	39	85	.4	4.1	412
JAN. 05...	1.1	2.7	297	0	38	75	.2	2.6	394
FEB. 17...	1.3	3.0	289	0	40	87	.4	1.6	413
MAR. 29...	1.3	2.8	282	0	40	92	.5	2.2	412
JUNE 21...	.9	2.6	260	0	28	55	.4	12	335
AUG. 05...	.8	2.4	263	0	28	50	.5	15	329
SEP. 17...	1.0	2.9	248	0	31	58	.4	13	335

COLORADO RIVER BASIN

08154500 Lake Travis near Austin, Tex.

LOCATION.--Lat 30°23'29", long 97°54'24", Travis County, in powerhouse at Mansfield Dam on Colorado River, 7.3 miles (11.7 km) downstream from Sandy Creek, 12 miles (19 km) northwest of Austin, and at mile 318.0 (511.7 km).

DRAINAGE AREA.--38,130 mi² (98,760 km²), approximately, of which 12,880 mi² (33,360 km²) is probably noncontributing.

PERIOD OF RECORD.--September 1940 to current year. Prior to October 1948, published as Marshall Ford Reservoir near Austin.

GAGE.--Nonrecording gage. Datum of gage is 0.12 ft (0.037 m) above mean sea level (levels by Bureau of Reclamation). Prior to Dec. 26, 1940, staff gages on left bank near dam, datum at mean sea level, unadjusted. Dec. 26, 1940, to February 1942, mercury manometer in powerhouse, datum at mean sea level, unadjusted.

EXTREMES (at 2400).--Current year: Maximum contents, 1,233,000 acre-ft (1.52 km³) July 19 (gage height, 684.05 ft or 208.498 m); minimum, 1,047,000 acre-ft (1.29 km³) Oct. 7, 8; minimum gage height, 674.18 ft (205.490 m) Oct. 7.

Period of record: Maximum contents, 1,770,000 acre-ft (2.18 km³) May 18, 1957 (gage height, 707.4 ft or 215.62 m); minimum, 332,600 acre-ft (410 hm³) Aug. 13, 14, 1951 (gage height, 614.2 ft or 187.21 m).

REMARKS.--The lake is formed by a 7,098-foot-long (2,163-meter) concrete gravity, earth, and rockfill dam. Storage began Sept. 9, 1940, and dam was completed in early 1942. Capacity curve is based on October 1939 survey. Capacity between gage heights 681.0 and 714.0 ft (207.57 and 217.63 m) is 778,000 acre-ft (959 hm³) and is reserved for flood control. Figures given herein represent total contents. Water is used for power development and for irrigation below Columbus. Data regarding the dam and lake are given in the following table:

	Gage height (feet)	Capacity (acre-feet)
Top of dam (roadway).....	750.1	-
Design flood.....	748.9	3,223,000
Crest of spillway.....	714.0	1,950,000
Top of power storage.....	681.0	1,172,000
Lowest gated outlet (invert).....	535.8	27,900

COOPERATION.--Records of daily gage heights and capacity curve furnished by Lower Colorado River Authority.

REVISIONS.--WSP 1342: Drainage area.

Capacity table (gage height, in feet, and contents, in acre-feet)

674.0	1,044,000	680.0	1,152,000
676.0	1,080,000	682.0	1,192,000
678.0	1,116,000	685.0	1,252,000

CONTENTS, IN ACRE-Feet, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1058000	1070000	1084000	1081000	1092000	1107000	1086000	1122000	1160000	1112000	1182000	1087000
2	1056000	1070000	1087000	1081000	1092000	1109000	1083000	1119000	1160000	1108000	1179000	1097000
3	1054000	1073000	1087000	1083000	1092000	1109000	1097000	1116000	1161000	1104000	1173000	1110000
4	1052000	1073000	1087000	1082000	1093000	1108000	1080000	1115000	1158000	1157000	1170000	1115000
5	1051000	1075000	1089000	1082000	1093000	1108000	1082000	1115000	1155000	1193000	1170000	1113000
6	1049000	1074000	1088000	1083000	1095000	1107000	1083000	1117000	1153000	1206000	1170000	1113000
7	1047000	1076000	1088000	1084000	1094000	1105000	1090000	1127000	1152000	1206000	1170000	1103000
8	1047000	1076000	1085000	1083000	1095000	1105000	1092000	1131000	1150000	1201000	1169000	1111000
9	1049000	1076000	1080000	1081000	1094000	1108000	1093000	1133000	1148000	1195000	1169000	1112000
10	1050000	1076000	1076000	1082000	1095000	1107000	1093000	1137000	1145000	1196000	1167000	1112000
11	1051000	1076000	1073000	1081000	1095000	1108000	1093000	1139000	1143000	1206000	1166000	1108000
12	1053000	1078000	1072000	1081000	1095000	1109000	1091000	1137000	1137000	1217000	1164000	1113000
13	1055000	1078000	1073000	1081000	1097000	1110000	1090000	1143000	1136000	1219000	1160000	1099000
14	1056000	1078000	1073000	1081000	1097000	1111000	1087000	1146000	1133000	1218000	1156000	1095000
15	1059000	1078000	1075000	1081000	1097000	1112000	1085000	1147000	1133000	1221000	1152000	1091000
16	1059000	1078000	1075000	1082000	1097000	1111000	1086000	1149000	1132000	1223000	1148000	1089000
17	1059000	1077000	1076000	1082000	1100000	1112000	1091000	1148000	1129000	1227000	1140000	1085000
18	1058000	1078000	1073000	1082000	1099000	1109000	1106000	1147000	1124000	1232000	1141000	1081000
19	1058000	1078000	1072000	1082000	1099000	1107000	1110000	1146000	1124000	1233000	1137000	1077000
20	1058000	1078000	1072000	1084000	1102000	1105000	1116000	1145000	1119000	1231000	1133000	1077000
21	1059000	1078000	1072000	1085000	1101000	1102000	1119000	1147000	1115000	1229000	1129000	1074000
22	1059000	1078000	1073000	1086000	1101000	1101000	1120000	1145000	1110000	1226000	1125000	1069000
23	1061000	1077000	1073000	1086000	1101000	1099000	1121000	1143000	1106000	1221000	1121000	1065000
24	1065000	1083000	1078000	1086000	1101000	1099000	1118000	1142000	1102000	1215000	1116000	1061000
25	1067000	1084000	1077000	1087000	1101000	1099000	1115000	1145000	1112000	1210000	1112000	1056000
26	1067000	1083000	1077000	1090000	1105000	1098000	1109000	1150000	1115000	1207000	1108000	1053000
27	1068000	1084000	1077000	1091000	1104000	1095000	1109000	1152000	1120000	1205000	1104000	1053000
28	1070000	1084000	1078000	1091000	1104000	1093000	1121000	1154000	1118000	1200000	1100000	1054000
29	1071000	1084000	1081000	1092000	1104000	1092000	1125000	1153000	1117000	1194000	1097000	1053000
30	1070000	1084000	1081000	1092000	---	1091000	1125000	1152000	1116000	1190000	1091000	1051000
31	1070000	---	1081000	1092000	---	1088000	---	1153000	---	1187000	1088000	---
(†)	675.45	676.22	676.04	676.68	677.35	676.47	678.50	680.04	678.00	681.74	676.43	674.38†
(*)	+12000	+14000	-3000	+11000	+12000	+16000	+37000	+28000	-37000	+71000	-99000	-37000
MAX	1071000	1084000	1089000	1092000	1105000	1112000	1125000	1154000	1161000	1233000	1182000	1115000
MIN	1047000	1070000	1072000	1081000	1092000	1088000	1080000	1115000	1102000	1104000	1072000	1051000

CAL YR 1975..... * -125000

MAX 1376000

MIN 1047000

WTR YR 1976..... * -7000

MAX 1233000

MIN 1047000

† Gage height, in feet, at end of month.

* Change in contents, in acre-feet.

COLORADO RIVER BASIN

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08154510 Colorado River below Mansfield Dam, Austin, Tex.

LOCATION.--Lat 30°23'30", long 97°54'28", Travis County, at the downstream side of Mansfield Dam, 12.9 miles (20.8 km) northwest of the State Capitol at Austin, and at mile 318.0 (511.7 km).

DRAINAGE AREA.--38,130 mi² (98,760 km²), approximately, of which 12,880 mi² (33,360 km²) is probably noncontributing.

PERIOD OF RECORD.--October 1974 to current year.

GAGE.--None. Daily discharge record is based on daily releases from Lake Travis.

EXTREMES.--Current year: Maximum daily discharge, 5,090 ft³/s (144 m³/s) July 17; no flow at times.

REMARKS.--Records fair.

COOPERATION.--All records of releases were furnished by the Lower Colorado River Authority.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	744	0	0	0	0	0	1140	2020	1910	2430	3030	1970
2	776	0	0	25	0	0	1570	2180	1060	2150	3430	1870
3	801	149	29	0	0	0	1540	2160	1150	2170	3030	2250
4	756	0	0	0	0	322	1560	2050	2100	1870	1880	2080
5	856	0	19	0	0	503	0	2090	1940	3030	1530	1970
6	790	0	0	0	0	787	229	1220	1730	3030	1770	2010
7	827	0	0	2080	0	997	0	44	2090	2750	1930	2060
8	810	0	1890	2800	0	126	0	0	1930	2900	2020	2120
9	1230	0	2370	1280	0	0	0	0	1890	3030	1940	2020
10	1880	0	2360	0	0	0	0	1010	2070	3030	2240	1970
11	619	0	1720	0	0	0	0	960	2300	3100	1970	2100
12	168	0	0	0	109	0	1070	1080	2010	3950	2300	2130
13	369	0	0	0	145	0	1650	981	1920	5080	2350	2260
14	266	0	0	0	0	0	1720	459	2350	5060	1940	2060
15	0	0	292	0	91	0	1520	0	2340	4870	2240	2110
16	0	0	216	0	0	0	784	0	1960	4860	2080	1850
17	0	0	288	0	91	0	503	1020	2170	5090	2120	2120
18	0	0	1460	0	0	1400	0	964	2240	5060	2220	2170
19	0	0	386	0	0	1390	0	1020	2060	5040	2000	1920
20	0	0	0	0	0	1020	176	1520	2260	4990	1990	2150
21	289	0	0	64	0	1140	0	1590	2160	4990	2340	2060
22	0	0	0	56	0	1040	188	1500	2380	5050	2250	2490
23	0	0	0	0	0	974	1830	1520	2190	4990	2060	1970
24	0	0	53	0	0	957	2040	1970	2040	5010	2280	2180
25	0	0	0	0	0	994	2000	2100	2300	4990	2190	2060
26	0	0	0	263	75	1040	2000	0	1910	3840	2110	2210
27	0	0	0	308	0	1140	2230	0	2000	3120	2040	2200
28	0	0	0	186	0	759	1920	0	2040	3200	1750	2000
29	0	0	0	13	0	1110	1120	1210	2050	3410	1890	1940
30	0	0	0	0	---	1040	1120	977	2090	3420	2600	2260
31	308	---	0	0	---	1060	---	1760	---	2860	1980	---
TOTAL	11489	149	11083	7075	511	17799	27910	33405	60640	118370	67500	62560
MEAN	371	4.97	358	228	17.6	574	930	1078	2021	3818	2177	2085
MAX	1880	149	2370	2800	145	1400	2230	2180	2380	5090	3430	2490
MIN	0	0	0	0	0	0	0	0	1060	1870	1530	1850
AC-FT	22790	296	21980	14030	1010	35300	55360	66260	120300	234800	133900	124100
CAL YR 1975 TOTAL	953460.00			MEAN 2612	MAX 20360	MIN 0	AC-FT 1891000					
WTR YR 1976 TOTAL	418491.00			MEAN 1143	MAX 5090	MIN 0	AC-FT 830100					

COLORADO RIVER BASIN

08154760 Bull Creek at Farm Road 2222 near Austin, Tex.
(Reconnaissance partial-record station)

LOCATION.--Lat 30°21'33", long 97°47'16", Travis County, low-water crossing at Farm Road 2222, 50 ft (15 m) west of Lakewood Drive, and 6.5 miles (10.5 km) northwest of State capital in Austin.

DRAINAGE AREA.--30.42 mi² (78.79 km²).

PERIOD OF RECORD.--Occasional discharge measurements and water-quality data: January 1975 to current year.

DISCHARGE AND WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	IMMEDIATE COLIFORM (COL. PER 100 ML)	FECAL COLIFORM (COL. PER 100 ML)
NOV. 04...	0935	3.1	513	8.0	18.5	0	20	9.3	99	.9	370	96
JAN. 05...	1345	1.7	671	8.1	8.0	0	10	12.4	104	.7	44	19
FEB. 23...	1400	1.2	559	8.5	18.5	5	15	11.6	123	.9	60	8
APR. 05...	1430	28	513	8.1	19.0	20	85	9.6	102	1.6	1800	540
MAY 26...	0145	74	400	8.2	23.5	0	220	8.8	102	1.9	67000	2400
JUNE 23...	0900	1.2	503	7.9	25.0	0	17	7.8	96	1.3	1300	31
SEP. 03...	1250	.98	748	8.2	28.0	--	--	8.0	103	--	--	--
20...	1405	3.0	311	7.9	26.0	10	1700	7.8	98	2.8	570000	82000

DATE	100 ML	STREPTOCOCCI (COLONIES PER 100 ML)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISSOLVED PHOSPHATE (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)
NOV. 04...	280	--	--	--	--	--	--	--	--	--	--	--	--
JAN. 05...	11	270	71	70	22	36	1.0	2.1	240	0	86	53	
FEB. 23...	50	--	--	--	--	--	--	--	--	--	--	--	--
APR. 05...	3900	190	50	51	16	25	.8	2.2	175	0	66	34	
MAY 26...	7600	200	32	55	14	11	.3	1.7	200	0	33	16	
JUNE 23...	320	230	48	57	21	18	.5	1.7	222	0	46	27	
SEP. 03...	--	--	--	--	--	--	--	--	--	--	--	--	--
20...	26000	130	63	38	7.4	4.5	.2	2.4	76	0	78	5.3	

DATE	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SiO2) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NON-FILTERABLE RESIDUE (MG/L)	VOL. NON-FILTERABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
NOV. 04...	--	--	--	20	0	.05	.00	.05	.29	.02	3.0
JAN. 05...	.1	7.0	397	16	4	.28	.07	.05	.00	.01	5.0
FEB. 23...	--	--	--	20	2	.01	.00	.00	.24	.00	2.0
APR. 05...	.4	6.3	287	148	38	.57	.01	.01	.46	.05	9.1
MAY 26...	.2	7.1	238	382	58	.20	.01	.06	.70	.08	9.0
JUNE 23...	.3	11	293	25	5	.01	.00	.01	.27	.06	5.1
SEP. 03...	--	--	--	--	--	--	--	--	--	--	--
20...	.2	4.0	177	3430	292	.55	.02	.03	2.0	.21	20

COLORADO RIVER BASIN

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08154760 Bull Creek at Farm Road 2222 near Austin, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		DIS-SOLVED ALUM- INUM (AL) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED CAD- MIUM (CD) (UG/L)	DIS-SOLVED CHRO- MIUM (CR) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)				
	DATE	TIME										
	JAN. 05...	1345	0	0	160	0	0	0				
	MAY 26...	0145	10	1	60	0	0	0				
	JUNE 23...	0900	20	2	190	0	0	0				
	SEP. 03...	1250	20	2	--	0	0	0				
		DIS-SOLVED IRON (FF) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MAN- GANESE (MN) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED STRON- TIUM (SR) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)			
	DATE	TIME										
	JAN. 05...	30	0	10	0	.2	0	2000	10			
	MAY 26...	30	0	0	0	.1	0	1000	0			
	JUNE 23...	0	0	10	0	.0	0	1400	10			
	SEP. 03...	30	1	30	0	.0	3	1000	10			
DATE	TIME	TOTAL PCB (UG/L)	POLY- CHLO- RINATED NAPH- THA- LENES (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLOR- DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)
JAN. 05...	1345	.0	--	.00	.0	.00	.00	.00	.00	.00	.00	.00
MAY 26...	0145	.0	.00	.00	.0	.00	.00	.00	.00	.00	.00	.00
JUNE 23...	0900	.0	.00	.00	.0	.00	.00	.00	.00	.00	.00	.00
SEP. 03...	1250	.0	.00	.00	.0	.00	.01	.00	.07	.00	.00	.00
DATE	TIME	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
JAN. 05...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00
MAY 26...	.00	.00	.00	--	.00	.00	.00	0	.00	.00	.00	.00
JUNE 23...	.00	.00	.00	.00	.00	.00	.00	0	.00	.45	.00	.00
SEP. 03...	.00	.01	.00	.00	.00	.00	.00	0	.00	.12	.00	.00

COLORADO RIVER BASIN

08154900 Lake Austin at Austin, Tex.

LOCATION.--Lat 30°18'53", long 97°47'10", Travis County, at city of Austin Waterplant No. 2 and 1.5 miles (2.4 km) upstream from Tom Miller Dam on the Colorado River at Austin.

DRAINAGE AREA.--38,240 mi² (99,040 km²), of which 11,900 mi² (30,800 km²) is probably noncontributing.

PERIOD OF RECORD.--Chemical analyses: October 1964 to current year. Water temperatures: October 1964 to current year.

EXTREMES.--Period of record: Maximum daily specific conductance, 982 micromhos Aug. 15-17, 1974; minimum daily, 311 micromhos June 19, 1968. Maximum water temperatures, 32.0°C Aug. 24, 1965; minimum, 9.0°C Jan. 30, 1966, Jan. 9, 11, 1968, and Jan. 5, 1969.

REMARKS.--No discharge records available.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG)	DISSOLVED SODIUM (NA) (MG/L)
OCT.									
15...	1335	521	8.1	25.1	200	41	46	20	28
NOV.									
17...	1336	545	8.1	18.5	210	40	50	20	29
DEC.									
16...	1335	582	8.2	6.5	230	60	54	24	30
JAN.									
15...	1436	616	8.2	14.5	160	0	40	14	61
FEB.									
17...	1425	558	8.4	18.5	210	41	48	21	31
MAR.									
15...	1340	559	8.2	17.0	210	45	45	24	30
APR.									
15...	1535	548	8.2	20.5	200	41	45	21	30
MAY									
17...	1335	553	8.0	22.0	210	39	44	21	29
JUNE									
15...	1045	556	8.3	21.0	210	44	47	22	29
JULY									
16...	1535	540	8.1	19.0	190	34	43	21	30
AUG.									
20...	1405	534	8.1	24.5	210	46	46	22	28
SEP.									
15...	1335	527	7.9	25.0	200	43	45	22	27

DATE	SODIUM AD-SORPTION RATIO	DISSOLVED PHOSPHATE (P) (MG/L)	ACID-SOLUBLE PHOSPHATE (HCO ₃) (MG/L)	CARBONATE (CO ₃) (MG/L)	DISSOLVED SULFATE (SO ₄) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICATE (SiO ₂) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
OCT.									
15...	.9	3.3	190	9	32	51	.3	10	244
NOV.									
17...	.9	3.4	204	9	31	50	.4	12	246
DEC.									
16...	.9	3.6	212	7	41	54	.4	10	322
JAN.									
15...	2.1	4.2	200	0	49	54	.5	7.5	329
FEB.									
17...	.9	3.6	198	2	36	54	.4	8.2	302
MAR.									
15...	.9	3.4	203	0	37	54	.3	8.9	303
APR.									
15...	.9	3.4	196	0	35	55	.3	8.6	296
MAY									
17...	.9	3.1	204	0	34	51	.3	9.1	296
JUNE									
15...	.9	3.4	200	0	37	55	.3	9.3	302
JULY									
16...	.9	3.5	195	0	34	54	.3	9.5	291
AUG.									
20...	.9	3.3	194	0	33	51	.4	9.3	289
SEP.									
15...	.8	3.1	195	0	31	49	.3	9.4	283

LOCATION.--Lat 30°15'50", long 97°46'03", Travis County, 800 ft (240 m) upstream from bridge on Barton Springs Road and 1.8 miles (2.9 km) southwest of State Capitol at Austin.

DRAINAGE AREA.--125.3 mi² (324.5 km²).

PERIOD OF RECORD.--Occasional discharge measurements and water-quality data: January 1975 to current year.

DISCHARGE AND WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS-CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIO-CHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	IMMEDIATE COLIFORM (COL. PER 100 ML)	FECAL COLIFORM (COL. PER 100 ML)
NOV 03...	1250	88	592	7.0	22.5	0	1	7.4	84	.4	140	64
JAN 06...	1005	67	620	7.0	20.0	0	1	7.6	83	.2	35	10
FEB 24...	1035	56	623	7.5	21.0	0	35	7.2	80	.2	80	3
APR 14...	1115	61	566	7.3	21.0	0	1	6.6	73	.0	100	11
19...	1015	917	369	8.0	18.5	20	45	8.9	95	1.0	12000	3800
JUN 22...	0940	104	597	6.7	22.0	0	1	7.4	87	.6	300	9
SEP 07...	--	89	--	--	26.5	--	--	--	--	--	--	--

[illegible][illegible]

COLORADO RIVER BASIN

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08155505 Barton Creek below Barton Springs at Austin, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		DIS- SOLVED ALUM- INUM (AL) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)					
	DATE	TIME											
	JAN. 06...	1005	0	0	70	0	0	0					
	APR. 19...	1015	0	0	60	0	0	0					
	JUNE 22...	0940	0	1	40	0	0	0					
		DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)				
	DATE	TIME											
	JAN. 06...	30	0	10	20	.3	0	1600	10				
	APR. 19...	0	0	10	0	.2	0	210	0				
	JUNE 22...	0	0	10	0	.2	0	750	10				
DATE	TIME	TOTAL PCB (UG/L)	POLY- CHLO- RINATED NAPHE- THA- LENES (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLOR- DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	
JAN. 06...	1005	.0	--	.00	.0	.00	.00	.00	.00	.00	.00	.00	
APR. 19...	1015	.0	.00	.00	.0	.00	.00	.00	.00	.00	.00	.00	
JUNE 22...	0940	.0	.00	.00	.0	.00	.00	.00	.00	.00	.00	.00	
DATE	TIME	TOTAL HEPTA- CHLOR (UG/L)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
JAN. 06...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00	.00
APR. 19...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00	.00
JUNE 22...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00	.00

COLORADO RIVER BASIN

08156700 Shoal Creek at Northwest Park, Austin, Tex.

LOCATION.--Lat 30°20'50", Long 97°44'41", Travis County, at Northwest Park in Austin, 400 ft (122 m) upstream from Shoal Creek Boulevard bridge, 0.5 mile (0.8 km) west of intersection of Burnet Road and Justin Lane, and 5.0 miles (8.0 km) north of State Capitol Building in Austin.

DRAINAGE AREA.--7.03 mi² (18.21 km²).

PERIOD OF RECORD.--March 1975 to current year.

GAGE.--Water-stage recorder. Datum of gage is 661.84 ft (201.729 m) above mean sea level.

EXTREMES.--March to September 1975: Maximum discharge during period, 1,620 ft³/s (45.9 m³/s) Apr. 28 (gage height, 7.50 ft or 2.286 m); minimum, 0.01 ft³/s (0.0003 m³/s) Aug. 27.

Water year 1976: Maximum discharge, 1,060 ft³/s (30.0 m³/s) Apr. 18 (gage height, 6.28 ft or 1.914 m); no flow Aug. 17-25. Maximum flood since 1885, occurred Apr. 22, 1915, stage and discharge unknown.

REMARKS.--Records good. The city of Austin diverts water into the channel above gage during the summer months from a swimming pool at Northwest Park. There is some diversion into and out of the drainage area by storm sewers. This station is part of a hydrologic project to study the rainfall-runoff relationship for the Austin urban area. There are two digital recording rain gages located in the watershed.

DISCHARGE, IN CUBIC FEET PER SECOND, MARCH TO SEPTEMBER 1975

MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						---	.03	.44	.59	4.6	.06	.04
2						---	.19	.31	.42	.32	2.7	.04
3						---	.09	.21	.35	.28	.16	.05
4						---	.10	.18	.34	.20	18	.30
5						---	.11	.25	.21	.13	.16	.27
6						---	.32	.41	.23	.10	.08	.17
7						---	1.2	3.4	.17	.10	.05	.04
8						---	4.2	1.2	2.0	.09	.04	.05
9						---	.26	1.45	.62	.08	.04	.05
10						---	.29	3.5	.72	.08	.04	.11
11						---	.13	.24	3.3	.80	.04	.09
12						---	.12	.86	1.4	.70	.05	.03
13						---	.20	.44	1.1	.27	.04	.02
14						---	.20	1.0	.76	.19	.03	.03
15						---	.13	.31	.81	.49	.03	.07
16						---	.09	.24	.83	.79	.03	1.1
17						---	.19	.17	.61	.28	.03	.08
18						---	.09	.14	.41	.19	.03	.04
19						---	.07	2.5	.33	.11	.03	.05
20						---	.18	11	.31	.10	.03	3.0
21						---	2.8	.78	7.8	.10	.03	.16
22						---	.18	.16	.66	.08	.03	.10
23						---	.10	.03	.35	.07	.02	.06
24						---	.18	.43	.33	.08	.02	.06
25						---	.07	7.6	3.3	.07	.02	.07
26						---	.09	3.6	2.1	.06	.02	.07
27						---	.09	2.1	1.8	.06	19	.06
28						.11	131	1.1	2.6	1.1	.40	.06
29						.11	2.9	1.4	.41	.09	.06	.06
30						.11	3.9	3.3	27	.41	.06	.05
31						.12	---	1.1	---	.11	.05	---
TOTAL						---	149.59	206.75	210.53	91.33	41.41	6.38
MEAN						---	4.84	6.67	7.02	2.95	1.34	.21
MAX						---	131	63	72	80	19	3.0
MIN						---	.05	.14	.17	.06	.02	.02
CFSM						---	.71	.45	1.00	.42	.14	.03
IN						---	.74	1.19	1.11	.48	.22	.03
AC-FT						---	297	410	414	181	82	13

WTR YR 1975 TOTAL - MEAN - MAX - MIN - CFSM - IN - AC-FT -
PEAK DISCHARGE (BASE, 500 FT³/S)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
4-28	1330	7.50	1,620	6-30	2115	5.46	611
5-23	1845	5.84	772	7-11	0545	5.89	795
6-9	2400	7.00	1,350				

COLORADO RIVER BASIN

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08156700 Shoal Creek at Northwest Park, Austin, Tex.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.05	.13	.04	.06	.13	.06	.13	.28	1.2	.05	.07	.11
2	.05	.28	.05	.07	.11	.05	.11	.20	.45	.07	.08	.49
3	.05	.15	.06	.07	.11	.05	.10	.21	.23	.07	.07	.28
4	.02	1.0	.31	.09	.13	9.5	1.9	.23	.19	12	.06	.16
5	.01	.14	.10	.09	.11	8.2	36	14	.20	.44	.04	3.4
6	.01	.07	.05	.07	.07	2.7	.56	.87	4.6	.11	.03	.19
7	.01	.07	.04	.07	.06	6.4	10	33	1.3	.06	.03	.09
8	.01	.07	.22	.09	.07	6.6	3.0	1.0	.17	.19	.02	.07
9	.01	.06	.05	.12	.08	.25	.27	1.7	.13	.25	.02	.10
10	.02	.04	.05	.12	.07	.15	.18	1.2	.12	19	.02	.10
11	.02	.04	.04	.12	.06	.13	.15	.41	.12	.42	.03	.12
12	.07	.05	.05	.12	.10	.17	.14	20	.11	.17	.02	.12
13	.02	.05	.05	.08	.08	.16	.14	7.0	.10	.94	.02	.14
14	.01	.06	.05	.08	.07	.27	.15	.52	.07	8.0	.01	.83
15	.01	.06	.32	.08	.07	.22	9.3	.36	.06	25	.01	.12
16	.02	.06	.84	.06	.07	.22	12	.28	.07	1.4	.01	.04
17	.02	.06	.08	.05	1.3	.18	.30	.25	.06	.36	0	.04
18	.02	.81	.79	.05	.08	.18	205	.21	.07	.19	0	.06
19	.02	.10	.09	.90	.04	.20	6.5	.20	.93	.14	0	.07
20	.02	.09	.07	.42	.06	.21	23	5.5	.07	.13	0	8.8
21	.03	.05	.06	.07	1.3	.18	1.6	.44	.06	5.5	0	.27
22	1.4	.04	.06	.06	.06	.22	.77	.22	.07	.36	0	.27
23	1.5	.04	.08	.06	.05	1.2	.59	.19	.06	.16	0	.19
24	.05	.04	25	3.1	.05	.64	.39	.17	.05	.38	0	.19
25	.0	.04	.87	3.1	.06	.13	.33	.40	.29	3.4	0	.17
26	1.6	.04	.15	.10	.06	.09	.29	64	6.4	.14	13	.65
27	.15	.04	.12	.08	.06	.13	.29	7.0	.43	.13	.44	.27
28	.12	.05	.11	.09	.05	.07	4.1	.88	.09	.13	.12	35
29	.09	.28	.09	.09	.05	.09	19	.48	.06	.16	.10	.27
30	.12	.66	.08	.08	---	4.4	.43	.39	.06	.12	.52	.17
31	.16	---	.06	.10	---	.15	---	.62	---	.09	.13	---
TOTAL	45.74	4.07	30.03	9.74	4.61	43.30	336.72	201.81	46.51	79.56	14.85	101.29
MEAN	1.48	.14	.97	.31	.16	1.40	11.2	6.51	1.55	2.57	.48	3.38
MAX	.40	1.0	.25	3.1	1.3	9.6	205	64	29	25	13	.49
MIN	.01	.04	.04	.05	.04	.05	.10	.17	.05	.05	0	.04
CFSM	.21	.02	.14	.04	.02	.20	1.59	.93	.22	.37	.07	.48
IN.	.24	.02	.16	.05	.02	.23	1.78	1.07	.25	.42	.08	.54
AC-FT	91	8.1	60	19	9.1	86	668	400	92	158	29	201

CAL YR 1975 TOTAL - MEAN - MAX - MIN - CFSM - IN - AC-FT -
WTR YR 1976 TOTAL 918.30 MEAN 2.51 MAX 205 MIN 0 CFSM .36 IN 4.86 AC-FT 1820

PEAK DISCHARGE (BASE, 500 FT²/S).--Apr. 18 (0345) 1,060 ft³/s (6.28 ft); May 25 (2245) 719 ft³/s (5.55 ft).

COLORADO RIVER BASIN

08156800 Shoal Creek at 12th Street, Austin, Tex.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 30°16'35", long 97°45'00", Travis County, at downstream side of bridge on 12th Street and 0.6 mile (1.0 km) west of the State Capitol Building in Austin.

DRAINAGE AREA.--12.3 mi² (31.9 km²).

PERIOD OF RECORD.--Discharge (storm hydrographs): April 1975 to current year. Periodic discharge measurements only: November 1974 to current year.

Periodic water-quality data: Chemical, biochemical, and pesticide analyses: January 1975 to current year. Water temperatures: January 1975 to current year.

GAGE.--Flood-hydrograph recorder and crest-stage gage. Datum of gage is 455.33 ft (138.785 m) above mean sea level.

PEAK DISCHARGE.--Current year: Maximum discharge, 1,670 ft³/s (47.3 m³/s) Apr. 18 (gage height, 10.08 ft or 3.072 m).

REMARKS.--Additional storm rainfall-runoff data for this site can be obtained from the report "Hydrologic Data for Urban Studies in the Austin, Texas Metropolitan Area, 1976."

PEAK DISCHARGE ABOVE BASE (1,000 FT³/S)
OR FOR WATER-QUALITY ANALYSIS

DATE	TIME	G.HT.	DISCHARGE
5-7	1030	6.15	331
5-25	2330	9.55	1,420
9-2	1115	6.47	356
9-20	1510	5.61	177

DISCHARGE AND WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	IMMEDIATE COLIFORM PER 100 ML	FECAL COLIFORM (COL. PER 100 ML)
FEB 17...	1245	23	375	7.3	20.0	20	320	7.6	83	23	150000	33000
MAR 08...	1533	14	258	7.8	12.5	10	50	8.7	91	3.1	25000	2300
30...	0830	19	390	7.9	14.5	10	60	7.4	72	7.4	95000	12000
APR 05...	1345	147	128	7.7	18.0	60	150	9.4	99	5.6	53000	12000
MAY 07...	0828	79	122	7.9	17.5	30	90	8.9	93	7.0	540000	20000
07...	1136	314	182	7.9	17.5	20	175	9.3	97	6.0	240000	20000
07...	1550	51	192	7.2	18.0	20	60	8.0	91	2.4	130000	7700
25...	2345	1370	130	8.3	22.0	40	1000	6.0	68	16	400000	45000
26...	0312	190	162	8.1	22.0	40	190	8.3	94	5.1	330000	35000
26...	1153	21	352	7.9	24.0	10	20	7.3	86	1.4	98000	6500
SEP 03...	1030	1.8	417	7.6	25.5	10	4	6.6	82	.8	66000	11000
20...	1510	177	159	8.2	25.0	80	600	7.0	86	17	1700000	1300000

DATE	STREPTOCOCCI (COLONIES PER 100 ML)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISSOLVED PHOSPHATE (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)
FEB 17...	93000	140	35	50	4.3	19	.7	4.4	132	0	42	32
MAR 08...	3800	--	--	--	--	--	--	--	--	--	--	--
30...	38000	--	--	--	--	--	--	--	--	--	--	--
APR 05...	56000	54	0	20	1.1	2.9	.2	2.0	70	0	11	3.1
MAY 07...	120000	--	--	--	--	--	--	--	--	--	--	--
07...	82000	--	--	--	--	--	--	--	--	--	--	--
07...	26000	85	17	31	1.7	5.5	.3	2.0	82	0	19	6.2
25...	94000	57	8	21	1.1	4.4	.3	2.2	60	0	12	5.2
26...	68000	--	--	--	--	--	--	--	--	--	--	--
26...	21000	--	--	--	--	--	--	--	--	--	--	--
SEP 03...	7900	170	60	61	4.5	14	.5	3.8	136	0	60	21
20...	320000	64	8	24	1.0	3.5	.2	3.5	68	0	21	5.3

08156800 Shoal Creek at 12th Street, Austin, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS-SOLVED FIBRO- WIDE (F) (MG/L)	DIS-SOLVED SILICA (%IOZ) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L)	TOTAL NON- FILT- HABLE RESIDUE (MG/L)	VOL. NON- FILT- HABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NIT-O- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
FEB. 17...	.2	4.3	222	7.5	95	.34	.01	.11	2.7	.40	24
MAY 07...	--	--	--	72	36	.44	.01	.02	.43	.16	12
25...	--	--	--	93	16	.37	.02	.12	.88	.21	14
SEP. 05...	.3	2.3	77	374	75	.24	.02	.09	1.0	.38	17
MAY 07...	--	--	--	130	16	.26	.01	.19	1.4	.36	13
07...	--	--	--	130	12	.12	.01	.06	1.3	.44	15
07...	.2	4.1	116	89	7	.11	.01	.00	.52	.17	8.0
25...	.2	2.0	78	279	332	.33	.04	.30	3.0	1.3	15
25...	--	--	--	364	76	.46	.02	.20	.40	.43	10
25...	--	--	--	26	7	.63	.01	.03	.36	.13	7.0
SEP. 03...	.3	7.1	239	6	2	.37	.01	.01	.36	.07	3.4
20...	.2	2.6	95	119	128	.35	.02	.08	2.4	.63	29

DATE	TIME	DIS-SOLVED ALUM- INUM (AL) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BARIUM (BA) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED CAD- MIUM (CD) (UG/L)	DIS-SOLVED CHRO- MIUM (CR) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
FEB. 17...	1245	10	3	--	90	0	0	2	4	30
MAY 07...	1550	10	3	--	50	0	4	0	2	50
25...	2345	10	5	--	50	0	0	0	0	30
SEP. 03...	1030	60	--	--	--	0	--	0	6	20
20...	1510	--	12	100	--	0	5	--	5	60

DATE	TIME	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MAN- GANESE (MN) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED SELE- NIUM (SE) (UG/L)	DIS-SOLVED SILVER (AG) (UG/L)	DIS-SOLVED STRON- TIUM (SR) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
FEB. 17...		6	10	0	.1	3	--	--	210	0
MAY 07...		0	0	0	.0	0	--	--	100	0
25...		0	0	0	.1	0	--	--	100	0
SEP. 03...		12	20	0	--	4	--	--	270	50
20...		4	--	10	.0	--	0	0	--	30

DATE	TIME	POLY- CHLO- RINATED NAPH- THA- LENES (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLOR- DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)
FEB. 17...	1245	.0	.00	.00	.2	.09	.02	.33	.21	.02	.00
MAY 25...	2345	.0	.00	.00	.6	.17	.33	.44	.18	.00	.00
SEP. 03...	1030	.0	.00	.00	.0	.00	.01	.00	.32	.01	.00
20...	1510	.0	.00	.00	.3	.10	.08	.14	.16	.08	.00

DATE	TIME	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
FEB. 17...	.04	.00	.00	.00	.01	.00	.00	0	.00	.10	.08	2.9
MAY 25...	.03	.01	.00	--	.00	.00	.00	0	.00	.04	.10	.00
SEP. 03...	.00	.01	.00	.00	.00	.00	.00	0	.00	.00	.20	.00
20...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00

COLORADO RIVER BASIN

08157000 Waller Creek at 38th Street, Austin, Tex.

LOCATION.--Lat 30°17'49", long 97°43'36", Travis County, on right bank 200 ft (61 m) upstream from bridge at East 38th Street in Austin, 1.1 miles (1.8 km) upstream from West Branch of Waller Creek, and 3.3 miles (5.3 km) upstream from Colorado River.

DRAINAGE AREA.--2.31 mi² (5.98 km²).

PERIOD OF RECORD.--April 1955 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 555.44 ft (169.298 m) above mean sea level.

AVERAGE DISCHARGE.--21 years, 1.70 ft³/s (0.0481 m³/s), 9.99 in/yr (254 mm/yr), 1,230 acre-ft/yr (1.52 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 657 ft³/s (18.6 m³/s) May 25 (gage height, 5.84 ft or 1.780 m); minimum daily, 0.14 ft³/s (0.004 m³/s) Sept. 9, 17.

Period of record: Maximum discharge, 1,970 ft³/s (55.8 m³/s) Oct. 29, 1960 (gage height, 7.77 ft or 2.368 m); no flow for many days in 1955-57, 1964.

REMARKS.--Records good. Flow slightly regulated at times by a small reservoir at Holy Cross High School (formerly St. Mary's Academy) on East 41st Street and a small swimming pool at the school which is drained into the creek every week or two during the summer. Water from other swimming pools also drain into the creek. Station is part of hydrologic research project to study rainfall-runoff relation for small urban areas. Two recording rain gages are located in the area so that weighted-mean rainfall on the watershed can be determined.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.20	.20	.19	.24	.28	.30	.26	.35	1.6	.60	.59	.17
2	.21	1.5	.21	.23	.28	.25	.27	.32	3.8	.59	.27	12
3	.21	.32	.22	.23	.27	.26	.24	.30	.77	.57	.56	.23
4	.20	.22	.67	.24	.27	4.7	1.7	.33	.71	18	.58	.21
5	.25	.22	.28	.28	.27	5.0	22	21	.69	1.8	.54	.59
6	.19	.20	.17	.32	.26	2.4	.48	.84	1.8	.67	.50	.29
7	.20	.22	.17	.22	.26	2.6	6.4	21	.74	.59	.63	.18
8	.20	.22	.17	.28	.27	2.0	1.1	1.0	.69	.34	.68	.18
9	.21	.22	.17	.26	.25	.34	.35	1.2	.64	.51	.31	.14
10	.16	.20	.17	.30	.26	.31	.32	.96	.60	9.0	.46	.15
11	.18	.20	.19	.30	.29	.30	.30	.58	.59	.91	.53	.16
12	.20	.17	.20	.30	.28	.29	.28	12	.59	.41	.54	.15
13	.16	.18	.20	.30	.29	.28	.29	2.8	.60	1.7	.55	.20
14	.15	.19	.20	.31	.29	.28	.30	.65	.37	6.2	.52	.15
15	.17	.19	.23	.31	.30	.27	3.1	.54	.52	7.3	.54	.15
16	.17	.20	.61	.29	.33	.26	.76	.46	.56	1.3	.30	.15
17	.15	.20	.22	.29	4.8	.27	.33	.39	.58	.73	.55	.14
18	.15	.92	.21	.28	.33	.28	69	.38	.68	.67	.58	.15
19	.15	.25	.22	2.0	.28	.27	1.7	.37	1.8	.33	.56	.16
20	.15	.26	.22	.97	.29	.26	12	4.8	.55	.57	.51	5.4
21	.16	.20	.28	.31	1.2	.26	.86	.55	.57	2.8	.58	.18
22	.45	.19	.22	.29	.28	.25	.63	.42	.54	1.1	.68	.15
23	1.9	.20	.22	.28	.28	.62	.56	.37	.51	.61	.28	.16
24	.18	.19	19	2.5	.24	.92	.46	.35	.53	.77	.19	.15
25	24	.20	.47	2.4	.28	.37	.37	27	16	.75	.18	.17
26	.81	.21	.27	.28	.28	.26	.34	37	18	.41	2.2	.16
27	.24	.20	.25	.28	.30	.22	.33	2.3	1.0	.82	.27	.17
28	.24	.27	.24	.29	.30	.19	.48	1.0	.34	.56	.19	15
29	.22	.28	.24	.28	.30	.18	8.9	1.0	.60	.55	.19	.21
30	.22	.19	.24	.28	---	4.5	.42	.88	.58	.57	.76	.18
31	.26	---	.24	.28	---	.27	---	.85	---	.58	.19	---
TOTAL	32.34	8.41	26.59	15.42	13.61	28.96	134.53	141.99	57.55	62.31	16.01	37.48
MEAN	1.04	.28	.86	.50	.47	.93	4.48	4.58	1.92	2.01	.52	1.25
MAX	24	1.5	19	2.5	4.8	5.0	69	37	18	18	2.2	15
MIN	.15	.17	.17	.22	.24	.18	.24	.30	.34	.33	.18	.14
CFSM	.45	.12	.37	.22	.20	.40	1.94	1.98	.83	.87	.23	.54
IN.	.52	.14	.43	.25	.22	.47	2.17	2.29	.93	1.00	.26	.60
AC-FT	64	17	53	31	27	57	267	282	114	124	32	74
(++)	2.41	.54	1.85	.74	.46	2.01	6.83	6.66	2.71	3.53	.29	2.68

CAL YR 1975 TOTAL 602.69 MEAN 1.55 MAX 56 MIN .15 CFSM .71 IN 9.70 AC-FT 1200 ++ 32.16
WTR YR 1976 TOTAL 575.20 MEAN 1.57 MAX 69 MIN .14 CFSM .68 IN 9.26 AC-FT 1140 ++ 30.71

PEAK DISCHARGE (BASE, 300 FT³/S).--Apr. 18 (0330) 309 ft³/s (4.89 ft); May 25 (2315) 657 ft³/s (5.84 ft).

++ Weighted-mean rainfall, in inches.

COLORADO RIVER BASIN

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08157500 Waller Creek at 23d Street, Austin, Tex.

LOCATION.--Lat 30°17'08", Long 97°44'01", Travis County, on San Jacinto Boulevard, 50 ft (15 m) upstream from bridge on East 23d Street in Austin, and 2.1 miles (3.4 km) upstream from Colorado River.

DRAINAGE AREA.--4.13 mi² (10.70 km²).

PERIOD OF RECORD.--December 1954 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 509.95 ft (155.433 m) above mean sea level.

AVERAGE DISCHARGE.--21 years, 3.61 ft³/s (0.102 m³/s), 11.87 in/yr (301 mm/yr), 2,620 acre-ft/yr (3.23 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 979 ft³/s (27.7 m³/s) May 25 (gage height, 5.11 ft or 1.558 m); minimum daily, 0.35 ft³/s (0.010 m³/s) Sept. 11.

Period of record: Maximum discharge, 4,020 ft³/s (114 m³/s) Oct. 11, 1973 (gage height, 9.00 ft or 2.743 m); minimum daily, 0.2 ft³/s (0.006 m³/s) at times in 1955-57.

Maximum flood since 1885 occurred Apr. 22, 1915, stage unknown.

REMARKS.--Records good. Some regulation by small dam upstream. Diversion of city water into channel during the summer months from municipal and private swimming pools. Some diversions into and out of drainage area by storm sewers. Station is part of a hydrologic research project to study rainfall-runoff relation for small urban areas. Three recording rain gages located in watershed.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.51	.61	.44	.46	.49	.60	.57	.80	3.9	.97	.82	.44
2	.46	3.0	.50	.45	.57	.62	.56	.75	7.5	.92	.67	24
3	.49	.82	.50	.44	.52	.62	.54	.73	1.4	.86	.73	.61
4	.44	.59	1.6	.43	.54	9.2	4.9	.72	1.3	37	.89	.46
5	.46	.59	.73	.48	.56	6.9	38	38	1.2	4.3	.78	.90
6	.46	.54	.47	.60	.51	4.4	1.2	1.7	2.7	1.2	.80	.64
7	.54	.58	.45	.46	.51	7.2	11	38	1.5	1.0	.78	.46
8	.51	.59	.45	.47	.55	4.4	2.4	2.0	1.1	1.2	.83	.48
9	.54	.59	.46	.45	.52	.74	.85	2.5	1.1	1.2	.69	.56
10	.51	.54	.46	.50	.55	.65	.73	2.0	1.0	15	.62	.42
11	.47	.55	.47	.49	.57	.64	.69	1.3	1.1	1.5	.76	.35
12	.51	.49	.47	.54	.58	.64	.71	22	1.0	.92	.76	.43
13	.54	.43	.50	.53	.60	.84	.70	4.3	1.0	3.9	.89	.53
14	.51	.44	.48	.49	.54	.58	.71	1.4	.86	11	.71	.47
15	.52	.48	.67	.53	.57	.66	8.0	1.2	.79	12	.72	.51
16	.49	.48	1.8	.52	.57	.55	1.6	1.0	.95	2.3	.83	.45
17	.48	.50	.50	.51	13	.59	.76	.92	.99	1.2	.71	.44
18	.46	2.7	.46	.50	.70	.64	121	.87	.92	1.1	.83	.38
19	.45	1.2	.48	4.8	.55	.66	3.6	.88	2.0	.82	.87	.60
20	.52	.65	.48	2.6	.80	.58	22	11	.84	.86	.75	13
21	.63	.48	.51	.55	2.9	.52	1.8	1.3	.99	2.7	.79	.60
22	1.7	.45	.51	.54	.56	.67	1.4	.95	.83	1.6	.87	.46
23	3.3	.45	.43	.56	.57	1.8	1.5	.87	.90	.99	.64	.54
24	.60	.47	34	5.9	.51	1.7	1.1	.91	.89	1.1	.47	.51
25	46	.48	1.0	3.9	.56	.63	.90	51	36	1.1	.49	.48
26	1.9	.42	.56	.55	.60	.57	.91	66	26	.86	2.1	.69
27	.70	.42	.52	.54	.59	.51	.85	4.3	1.7	1.1	.67	.57
28	.71	.45	.50	.55	.56	.53	5.1	2.0	.81	.93	.46	21
29	.58	1.0	.50	.55	.54	.54	12	1.7	.94	.83	.41	.51
30	.60	.46	.48	.56	---	11	.93	1.6	.96	.99	1.8	.47
31	.66	---	.47	.51	---	.60	---	2.1	---	.79	.49	---
TOTAL	67.25	21.45	51.85	30.96	31.19	60.78	247.01	264.80	103.17	112.24	24.63	71.96
MEAN	2.17	.72	1.67	1.00	1.08	1.96	8.23	8.54	3.44	3.62	.79	2.40
MAX	46	3.0	34	5.9	13	11	121	66	36	37	2.1	24
MIN	.44	.42	.43	.43	.49	.51	.54	.72	.79	.79	.41	.35
CFSM	.53	.17	.40	.24	.26	.47	1.99	2.07	.83	.88	.19	.58
IN.	.61	.19	.47	.28	.28	.55	2.22	2.38	.93	1.01	.22	.65
AC-FT	133	43	103	61	62	121	490	525	205	223	49	143
(††)	2.43	.53	1.85	.77	.61	2.20	6.95	6.76	2.78	3.62	.23	2.76

CAL YP 1975 TOTAL 1124.49 MEAN 3.08 MAX 116 MIN .42 CFSM .75 IN 10.13 AC-FT 2230 †† 33.22
WTR YR 1976 TOTAL 1087.29 MEAN 2.97 MAX 121 MIN .35 CFSM .72 IN 9.79 AC-FT 2160 †† 31.49

PEAK DISCHARGE (BASE, 800 FT³/S).--May 25 (2330) 979 ft³/s (5.11 ft).

†† Weighted-mean rainfall, in inches.

COLORADO RIVER BASIN

08157900 Town Lake at Austin, Tex.

LOCATION.--Lat 30°14'56", long 97°43'03", Travis County, at Longhorn Dam on the Colorado River at Austin, 1.5 miles (2.4 km) downstream from Interstate Highway 35, and 2.3 miles (3.7 km) southeast of the State Capitol in Austin.

DRAINAGE AREA.--38,390 mi² (99,430 km²), approximately, of which 12,880 mi² (33,360 km²) is probably noncontributing.

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: February 1975 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	IMMEDIATE COLIFORM (COL. PER 100 ML)	FECAL COLIFORM (COL. PER 100 ML)	STREPTOCOCCI (COLONIES PER 100 ML)
JAN 06...	1000	582	7.6	18.5	0	2	8.5	90	.6	280	16	1
APR 20...	1030	370	7.9	19.0	30	20	7.6	81	1.1	9200	2500	3700
SEP 01...	1005	523	7.8	26.5	0	1	5.7	72	.1	5600	520	22
02...	1400	518	7.8	26.0	0	4	5.9	74	.7	8000	2800	2500

DATE	HARDNESS (CA, MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)
JAN 06...	250	42	66	21	24	.7	2.5	256	0	32	40
APR 20...	170	20	48	12	9.9	.3	2.3	182	0	18	16
SEP 01...	200	38	46	21	27	.8	3.0	200	0	28	49
02...	--	--	--	--	--	--	--	--	--	--	--

DATE	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SiO2) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NON-FILTERABLE RESIDUE (MG/L)	VOL. NON-FILTERABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
JAN 06...	.3	9.9	323	3	0	.76	.01	.06	.08	.05	4.8
APR 20...	.3	8.2	204	26	4	.35	.01	.05	.38	.02	5.4
SEP 01...	.3	9.5	283	3	1	.07	.00	.02	.29	.01	1.3
02...	--	--	--	6	0	--	--	--	--	--	--

COLORADO RIVER BASIN

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08157900 Town Lake at Austin, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	DIS-SOLVED ALUMINUM (AL) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	DIS-SOLVED CHROMIUM (CR) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
JAN. 06...	1000	0	1	0	0	0	14	0
APR. 20...	1030	--	--	--	--	--	--	0
SEP. 01...	1005	20	2	0	2	0	5	0

DATE	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MANGANESE (MN) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED STRONTIUM (SR) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
JAN. 06...	0	10	0	.0	0	700	10
APR. 20...	--	--	0	--	--	--	--
SEP. 01...	0	20	0	.0	4	450	10

DATE	TIME	TOTAL PCB (UG/L)	POLY-CHLORINATED NAPH-THALENES (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLORDANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI-AZINON (UG/L)	TOTAL DI-ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)
JAN. 06...	1000	.0	--	.00	.0	.00	.00	.00	.00	.00	.00	.00
SEP. 01...	1005	.0	.00	.00	.0	.00	.01	.00	.00	.00	.00	.00

DATE	TOTAL HEPTA-CHLOR (UG/L)	TOTAL HEPTA-CHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALATHION (UG/L)	TOTAL METHYL PARA-THION (UG/L)	TOTAL METHYL TRI-THION (UG/L)	TOTAL PARA-THION (UG/L)	TOTAL TOXAPHENE (UG/L)	TOTAL TRI-THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
JAN. 06...	.00	.00	.00	.00	.00	.00	.00	0	.00	.30	.00	.00
SEP. 01...	.00	.00	.00	.00	.00	.00	.00	0	.00	.01	.00	.00

COLORADO RIVER BASIN

08158000 Colorado River at Austin, Tex.
(National stream-quality accounting network)

LOCATION.--Lat 30°14'40", long 97°41'39", Travis County, on right bank 1,000 ft (305 m) upstream from upstream bridge on U.S. Highway 183 in Austin, 1.4 miles (2.3 km) downstream from Longhorn Dam, revised, and at mile 290.3 (467.1 km).

DRAINAGE AREA.--38,400 mi² (99,500 km²), approximately, of which 12,880 mi² (33,360 km²) is probably noncontributing.

PERIOD OF RECORD.--Discharge: February 1898 to current year. Records of daily discharge for Dec. 13-26, 1914, and Feb. 9-17, 1915, published in WSP 408, have been found unreliable and should not be used.

Water quality: Chemical analyses: October 1947 to current year. Water temperatures: October 1947 to current year. Sediment records: October 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 402.27 ft (122.612 m) above mean sea level. Prior to June 19, 1939, all records collected at or near Congress Avenue Bridge 3.9 miles (6.3 km) upstream at datum 19.6 ft (5.97 m) higher; prior to June 18, 1915, nonrecording gages, recording gages thereafter; June 20, 1939, to Oct. 16, 1963, at site 1,000 ft (305 m) downstream from present site at datum 5.0 ft (1.52 m) higher.

AVERAGE DISCHARGE.--38 years (1898-1936) unregulated, 2,711 ft³/s (76.78 m³/s), 1,964,000 acre-ft/yr (2.42 km³/yr); 40 years (1936-76) regulated, 2,053 ft³/s (58.14 m³/s), 1,487,000 acre-ft/yr (1.83 km³/yr).

EXTREMES.--Discharge: Current year: Maximum discharge, 11,700 ft³/s (331 m³/s) Apr. 18 (gage height, 12.23 ft or 3.728 m); minimum daily, 24 ft³/s (0.68 m³/s) Dec. 12, 13.

Period of record: Maximum discharge, 481,000 ft³/s (13,600 m³/s) June 15, 1935 (gage height, 50 ft or 15.2 m, present site and datum, from floodmark); minimum daily, 10 ft³/s (0.28 m³/s) Dec. 17, 1972.

Historic: Maximum stage since at least 1833, 51 ft (15.5 m) July 7, 1869, present site and datum (adjusted to present site on basis of record for flood of June 15, 1935), determined from information concerning stage at former site furnished by Dean T. U. Taylor.

Water quality: Current year: Maximum daily specific conductance, 619 micromhos Mar. 1; minimum daily, 287 micromhos Dec. 6.

Period of record: Maximum daily specific conductance, 737 micromhos Jan. 12, 1964; minimum daily, 243 micromhos Dec. 2, 1953. Maximum water temperatures (1947-76), 31.0°C on several days during summer months; minimum, 6.0°C Jan. 28, 1948, Feb. 4, 1949.

REMARKS.--Discharge records good. Since 1937, at least 10 percent of drainage area regulated by reservoirs. Flow largely regulated by Lake Travis (station 08154500). The city of Austin reported that 60,570 acre-ft (74.7 hm³) was diverted for municipal use above station and 39,170 acre-ft (48.3 hm³) of treated sewage was returned below station. Many other diversions above Lake Buchanan for irrigation, municipal supplies, and oilfield operations. No appreciable inflow between sampling point and gaging station, except during periods of local heavy rain.

REVISIONS (WATER YEARS).--WSP 508: 1915(m). WSP 528: 1900(M), 1918(m). WSP 548: 1901-16. WSP 1342: Drainage area. WSP 1562: 1908, 1929(M), 1936.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	895	136	100	146	101	241	1160	2340	2660	2310	3650	2260
2	898	139	97	137	98	134	1630	2320	1500	2420	3640	2710
3	904	278	96	128	83	108	1650	2340	1500	2380	3640	2290
4	897	168	109	113	101	137	1680	2280	2250	2640	2110	2250
5	908	240	104	113	104	241	659	2600	2270	3580	1950	2320
6	968	153	109	113	93	911	310	1570	2060	3530	1970	229
7	915	123	90	1320	88	1140	302	1270	2280	3310	2220	2350
8	913	140	92	3450	89	260	218	474	2240	2380	2170	2270
9	1160	152	94	1200	88	113	142	332	2260	3530	2340	2260
10	2110	2330	335	131	82	106	117	1360	2360	3650	2290	2260
11	1170	3660	119	138	95	110	111	1350	2280	3600	2420	2320
12	143	1860	24	111	82	104	1180	1430	2300	3990	2420	2320
13	239	150	24	111	72	138	1560	1510	2300	5330	2390	2250
14	404	146	140	111	89	341	1810	443	2350	5660	2320	2350
15	144	136	295	117	89	193	1710	286	2530	5690	2290	2240
16	132	149	311	118	89	127	911	259	2500	5580	2340	2210
17	126	142	295	120	207	53	565	1320	2450	5540	2380	2330
18	121	132	1400	115	80	1320	5010	1300	2390	5180	2310	2420
19	122	137	361	138	66	1200	1050	1330	2330	5180	2280	2340
20	122	112	137	129	105	1100	1700	1980	2310	5480	2290	2420
21	125	118	143	167	90	1180	640	1900	2340	5380	2180	2320
22	136	128	134	153	363	1140	796	1460	2470	5410	2280	2400
23	132	111	119	115	89	1210	2180	1910	2360	5380	2330	2360
24	130	105	361	135	68	1140	2480	2200	2420	5350	2320	2310
25	524	101	165	186	72	1150	2380	2330	2400	5500	2340	2310
26	166	105	143	546	121	1190	2390	1150	2610	4650	2300	2320
27	148	112	143	400	79	1170	2380	396	2500	3660	2240	2360
28	370	119	150	200	40	1120	2420	261	2490	3690	2290	2440
29	243	127	137	102	36	1180	2110	1530	2370	3770	2320	2420
30	151	107	134	93	---	1270	1250	1330	2380	3760	2490	2360
31	105	---	140	99	---	1130	---	1930	---	3040	2370	---
TOTAL	15521	11610	6101	10255	2859	20957	42501	45291	69860	130550	74880	70060
MEAN	501	387	197	331	98.6	676	1417	1461	2329	4211	2415	2335
MAX	2110	3660	1400	3450	363	1320	5010	2600	2800	5690	3650	2710
MIN	105	101	24	93	36	53	111	259	1500	2310	1950	2210
AC-FT	39790	23030	12100	20340	5670	41570	84300	89830	138600	258900	148500	139000
CAL YR 1975 TOTAL	1082657		MEAN	2966	MAX	24000	MIN	24	AC-FT	2147000		
WTR YR 1976 TOTAL	500445		MEAN	1367	MAX	5690	MIN	24	AC-FT	992600		

COLORADO RIVER BASIN

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08158000 Colorado River at Austin, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG. C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIO-CHEMICAL OXYGEN DEMAND 5 DAY (MG/L)
OCT. 22...	0945	128	563	7.8	24.5	0	2	6.2	74	.5
NOV. 25...	0735	99	563	7.5	16.5	0	1	6.8	69	.5
DEC. 09...	1025	97	585	7.4	17.0	0	1	8.8	91	1.5
JAN. 28...	0830	1540	577	7.6	13.5	0	9	9.1	87	1.3
FEB. 19...	0945	72	600	7.6	20.0	0	1	5.2	57	.6
MAR. 22...	0845	2460	563	7.7	18.5	0	4	10.0	106	.9
APR. 12...	0810	175	533	7.1	23.0	0	2	5.8	67	.2
MAY 11...	0830	315	504	7.2	22.0	0	4	7.7	88	.9
JUNE 07...	0900	2810	545	7.8	24.0	0	4	9.0	110	.4
JULY 12...	0930	3300	548	7.2	21.5	0	3	8.7	101	.9
AUG. 09...	0845	1800	541	7.6	27.0	0	2	8.7	110	.0
SEP. 22...	1035	3100	520	7.4	25.0	0	3	8.0	99	.3
DATE	IMMEDIATE COLIFORM PER 100 ML	FECAL COLIFORM PER 100 ML	STREPTOCOCCI (COLONIES PER 100 ML)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISSOLVED PHOSPHATE (MG/L)
OCT. 22...	260	68	48	230	37	57	20	27	.8	2.9
NOV. 25...	570	65	230	220	37	55	21	28	.8	3.0
DEC. 09...	1600	76	84	260	46	67	22	24	.7	2.5
JAN. 28...	3400	180	260	240	42	61	21	26	.7	2.9
FEB. 19...	680	17	27	260	47	64	23	26	.7	2.7
MAR. 22...	880	30	67	220	47	54	21	29	.8	3.3
APR. 12...	3000	140	52	210	41	47	22	26	.8	2.9
MAY 11...	3800	160	110	210	34	56	18	20	.6	2.5
JUNE 07...	1200	68	71	210	34	49	21	28	.8	3.0
JULY 12...	620	80	150	200	43	47	21	29	.9	3.3
AUG. 09...	7000	400	260	200	32	45	21	28	.9	3.0
SEP. 22...	11000	2300	210	200	41	45	22	27	.8	3.2

COLORADO RIVER BASIN

08158000 Colorado River at Austin, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	BICARBONATE (HCO ₃) (MG/L)	CARBONATE (CO ₃) (MG/L)	DISSOLVED SULFATE (SO ₄) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SiO ₂) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NON-FILTERABLE RESIDUE (MG/L)	VOL. NON-FILTERABLE RESIDUE (MG/L)
OCT. 22...	230	0	32	45	--	11	310	309	2	1
NOV. 25...	228	0	33	47	.2	10	311	310	3	1
DEC. 09...	258	0	32	40	.2	10	326	325	2	1
JAN. 28...	240	0	34	45	.3	8.1	320	317	28	2
FEB. 19...	254	0	33	44	.3	7.9	338	327	0	0
MAR. 22...	212	0	37	52	.5	9.2	310	311	6	5
APR. 12...	204	0	33	47	.3	7.5	320	286	2	0
MAY 11...	220	0	28	33	.3	9.1	298	275	4	1
JUNE 07...	214	0	33	49	.4	9.7	330	299	8	2
JULY 12...	196	0	34	52	.3	9.2	303	292	4	0
AUG. 09...	204	0	33	51	.3	9.3	310	292	4	0
SEP. 22...	198	0	30	48	.3	9.9	276	283	15	2

DATE	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT CHARGE (T/DAY)	SUSPENDED SIEVE DIAM. % FINER THAN .062 MM
OCT. 22...	.36	.00	.06	.26	.03	1.6	4	1.4	71
NOV. 25...	.09	.00	.01	.23	.03	5.8	4	1.1	46
DEC. 09...	.61	.01	.07	.22	.05	3.2	10	2.6	8
JAN. 28...	.51	.01	.04	.49	.05	4.2	31	129	52
FEB. 19...	.27	.01	.03	.09	.01	2.6	6	1.2	28
MAR. 22...	.10	.00	.03	.27	.00	2.8	14	93	72
APR. 12...	.26	.01	.04	.30	.01	9.2	3	1.4	56
MAY 11...	.38	.01	.05	.29	.03	3.4	5	4.3	73
JUNE 07...	.20	.00	.02	.24	.01	8.3	20	152	88
JULY 12...	.11	.00	.01	.18	.01	2.6	6	53	84
AUG. 09...	.13	.00	.01	.39	.02	2.1	3	15	6
SEP. 22...	.08	.00	.02	.33	.01	3.2	2	17	73

COLORADO RIVER BASIN

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08158000 Colorado River at Austin, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	DIS-SOLVED ALUMINUM (AL) (UG/L)	TOTAL ARSENIC (AS) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	TOTAL CADMIUM (CD) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	TOTAL CHROMIUM (CR) (UG/L)	DIS-SOLVED CHROMIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)
OCT. 22...	0945	2	1	1	80	0	0	<10	0	0
FEB. 19...	0945	10	2	1	90	1	1	<10	0	0
JUNE 07...	0900	10	1	0	70	2	2	10	0	0
AUG. 09...	0845	10	1	1	--	1	0	20	0	0

DATE	DIS-SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	TOTAL MANGANESE (MN) (UG/L)
OCT. 22...	0	7	5	0	10	0	0	10	40
FEB. 19...	0	16	0	20	0	7	0	10	30
JUNE 07...	0	11	2	200	10	6	5	10	20
AUG. 09...	0	6	3	60	0	4	2	10	20

DATE	DIS-SOLVED MANGANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	TOTAL SELENIUM (SE) (UG/L)	DIS-SOLVED SELENIUM (SE) (UG/L)	DIS-SOLVED STRONTIUM (SR) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
OCT. 22...	0	.7	.4	0	--	0	610	20	0
FEB. 19...	0	.1	.1	0	0	0	900	40	10
JUNE 07...	10	.0	.0	0	0	0	750	40	10
AUG. 09...	0	.1	.1	0	0	0	460	50	10

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PERIPHYTON

Date	Length of exposure (days)	Biomass (g/m ²)		Chlorophyll a (mg/m ²)	Chlorophyll b (mg/m ²)	Biomass pigment ratio	Sampling method
		Dry weight	Ash weight				
DEC. 09	14	12	8.5	38	1.2	85	Polyethylene strip
JAN. 28	49	16	13	25	2.3	140	Polyethylene strip
MAR. 22	32	13	11	.1	.2	650	Polyethylene strip
MAY 11	30	14.1	12.2	4.24	.162	450	Polyethylene strip
SEP. 22	44	192	177	32.6	1.89	480	Polyethylene strip

08158000 Colorado River at Austin, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

OCT. 22, 1975 0945 HOURS

PHYTOPLANKTON 330 CELLS/ML

__ORGANISM__NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
...CHARACIACEAE		
...SCHROEDERIA	11	3
...SCENEDESMACEAE		
...SCENEDESMUS	79	24
...VOLVOCALES		
...CHLAMYDOMONADACEAE		
...CHLAMYDOMONAS		0
...ZYGEMATALES		
...DESMIDIACEAE		
...COSMARIIUM	23	7
...SPONDYLIOSIUM	11	3
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..PENNALES		
...ACHNANTHACEAE		
...ACHNANTHES	11	3
...COCCONEIS	11	3
...CYMBELLACEAE		
...CYMBELLA	11	3
...GOMPHONEMACEAE		
...GOMPHONEMA	45	14
...NAVICULACEAE		
...NAVICULA	23	7
...NITZSCHIA	100	31

NOV. 25, 1975 0735 HOURS

PHYTOPLANKTON 400 CELLS/ML

__ORGANISM__NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
...OCCYSTACEAE		
...ANKISTRODESMUS	6	1
...CHODATELLA	6	1
...TETRAEDRON	30	7
...SCENEDESMACEAE		
...SCENEDESMUS	140	35
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..PENNALES		
...CYMBELLACEAE		
...CYMBELLA	6	1
...FRAGILARIACEAE		
...FRAGILARIA	47	12
...NITZSCHIA	77	19
...NITZSCHIA		
CYANOPHYTA		
..MYXOPHYCEAE		
..CHROOCOCCALES		
..CHROOCOCCACEAE		
...ANACYSTIS	89	22
...OSCILLATORIALES		
...OSCILLATORIA		
...LYNGRYA		0

DEC. 9, 1975 1025 HOURS

PHYTOPLANKTON 160 CELLS/ML

__ORGANISM__NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
...OCCYSTACEAE		
...OCCYSTIS	31	19
...SCENEDESMACEAE		
...CRUCIGENIA		0
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..PENNALES		
...CYMBELLACEAE		
...CYMBELLA	23	14
...DIATOMACEAE		
...DIATOMA	8	5
...FRAGILARIACEAE		
...SYNEDRA	8	5
...NAVICULACEAE		
...DIPLONEIS	8	5
...FRUSTULIA	8	5
...GYROSTIGMA	8	5
...NAVICULA	62	38
...NITZSCHIA		
...NITZSCHIA	8	5
CYANOPHYTA		
..MYXOPHYCEAE		
..CHROOCOCCALES		
..CHROOCOCCACEAE		
...ANACYSTIS		0
PYRRHOPHYTA		
..DINOPHYCEAE		
..PERIDINIALES		
..CERATIACEAE		
...CERATIUM		0

JAN. 28, 1976 0830 HOURS

PHYTOPLANKTON 4,500 CELLS/ML

__ORGANISM__NAME_____	CELLS/ML	PER_CENT
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..PENNALES		
...ACHNANTHACEAE		
...COCCONEIS	210	5
...CYMBELLACEAE		
...CYMBELLA	170	4
...DIATOMACEAE		
...DIATOMA	84	2
...FRAGILARIACEAE		
...SYNEDRA	130	3
...GOMPHONEMACEAE		
...GOMPHONEMA	42	1
...NAVICULACEAE		
...NAVICULA	460	10
...NITZSCHIA		
...NITZSCHIA	42	1
CHRYSOPHYCEAE		
..CHRYSONOMADACEAE		
...OCHROMONADACEAE		
...OCHROMONAS	460	10
CYANOPHYTA		
..MYXOPHYCEAE		
..OSCILLATORIALES		
...OSCILLATORIA		
...LYNGRYA	210	5
...OSCILLATORIA	2,700	60

08158000 Colorado River at Austin, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

FEB. 19, 1976 0945 HOURS

PHYTOPLANKTON 740 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
...OCCYSTACEAE		
....TETRAEDRON	9	1
...VOLVOCELES		
...VOLVOCEAE		
....GONIUM		0
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINODISCEAE		
....CYCLOTILLA	35	5
..PENNIALES		
...ACHNANTHACEAE		
....COCCONEIS	26	4
...CYMBELLACEAE		
....CYMBELLA	17	2
...FRAGILARIACEAE		
....FRAGILARIA	86	12
...SYNEDRA	9	1
...GOMPHONEMACEAE		
....GOMPHONEMA		0
...NAVICULACEAE		
....NAVICULA	43	6
...NITZSCHACEAE		
....NITZSCHIA	17	2
CYANOPHYTA		
..MYXOPHYCEAE		
...OSCILLATORIALES		
....OSCILLATORIA	490	67

MAR. 22, 1976 0845 HOURS

PHYTOPLANKTON 330 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
...CHARACIACEAE	10	3
...SCHROEDERIA		
...COELASTRACEAE		
....COELASTRUM	83	25
...SCENEDESMACEAE		
....SCENEDESMUS	41	13
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINODISCEAE		
....CYCLOTILLA	21	6
...MELOSIRA	10	3
..PENNIALES		
...ACHNANTHACEAE		
....ACHNANTHES	21	6
...COCCONEIS	10	3
...CYMBELLACEAE		
....CYMBELLA		0
...DIATOMACEAE		
....DIATOMA		0
...FRAGILARIACEAE		
....FRAGILARIA	21	6
...SYNEDRA	10	3
...GOMPHONEMACEAE		
....GOMPHONEMA	21	6
...NAVICULACEAE		
....NAVICULA	21	6
...NITZSCHACEAE		
....NITZSCHIA		0
...NITZSCHIA	62	19
...SURIPELLACEAE		
....SURIPELLA		0

APR. 12, 1976 0810 HOURS

PHYTOPLANKTON 520 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
...OCCYSTACEAE		
....ANKISTRODESMUS	9	2
...SCENEDESMACEAE		
....SCENEDESMUS	74	14
...VOLVOCELES		
...CHLAMYDOMONADACEAE		
....CARTERIA		0
...CHLAMYDOMONAS	37	7
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINODISCEAE		
....CYCLOTILLA	19	4
...MELOSIRA	19	4
..PENNIALES		
...ACHNANTHACEAE		
....ACHNANTHES	9	2
...COCCONEIS	37	7
...CYMBELLACEAE		
....CYMBELLA	19	4
...DIATOMACEAE		
....DIATOMA	56	11
...FRAGILARIACEAE		
....FRAGILARIA	65	13
...SYNEDRA		
...GOMPHONEMACEAE		
....GOMPHONEMA	9	2
...NAVICULACEAE		
....NAVICULA	100	20
...NITZSCHACEAE		
....NITZSCHIA	46	9
...ACHNANTHACEAE		
....ACHNANTHES	9	2
...RHOICOSPHENIA		
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
...EUGLENACEAE		
....EUGLENA	9	2
....PHACUS		

MAY 11, 1976 0830 HOURS

PHYTOPLANKTON 480 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINODISCEAE		
....CYCLOTILLA	300	63
..PENNIALES		
...ACHNANTHACEAE		
....ACHNANTHES	25	5
...CYMBELLACEAE		
....CYMBELLA	25	5
...AMPHORA		
...NAVICULACEAE		
....NAVICULA	25	5
...NITZSCHACEAE		
....NITZSCHIA	25	5
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
...EUGLENACEAE		
....EUGLENA	75	16

08158000 Colorado River at Austin, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

JUNE 7, 1976 0900 HOURS

PHYTOPLANKTON 1,500 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
...OCCYSTACEAE		
...ANKISTRODESMUS	25	2
...KIRCHNERIELLA	100	7
CHRYSTOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCEAE		
...CYCLOTELLA	50	3
..PENNALES		
...ACHNANTHACEAE		
...ACHNANTHES	50	3
...FRAGILARIACEAE		
...FRAGILARIA	120	8
...NAVICULACEAE		
...NAVICULA	25	2
...PINNULARIA	25	2
...NITZSCHIA		
...NITZSCHIA	50	3
..CHRYSTOPHYCEAE		
..CHRYTOMONADALES		
..OCHROMONADACEAE		
...OCHROMONAS	75	5
CYANOPHYTA		
..MYXOPHYCEAE		
..OSCILLATORIALES		
..OSCILLATORIA		
...OSCILLATORIA	870	58
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
..EUGLENALES		
...EUGLENACEAE		
...EUGLENA	100	7

JULY 12, 1976 0930 HOURS

PHYTOPLANKTON 140 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
...OCCYSTACEAE		
...ANKISTRODESMUS	4	3
...TETRAEDRON	4	3
..SCENEDESMACEAE		
...SCENEDESMUS	24	18
..VOLVOCALES		
..CHLAMYDOMONADACEAE		
...CARTEZIA	13	9
...CHLAMYDOMONAS	4	3
CHRYSTOPHYTA		
..BACILLARIOPHYCEAE		
..PENNALES		
...ACHNANTHACEAE		
...COCCONEIS	17	12
...GOMPHONEMATACEAE		
...GOMPHONEMA	4	3
...NAVICULACEAE		
...NAVICULA	24	18
...NITZSCHIA		
...NITZSCHIA	17	12
..CHRYSTOPHYCEAE		
..CHRYTOMONADALES		
..OCHROMONADACEAE		
...OCHROMONAS	9	6
..BACILLARIOPHYCEAE		
..PENNALES		
...ACHNANTHACEAE		
...ACHNANTHES	9	6
...RHODOSPIRA		
..CYANOPHYTA		
..MYXOPHYCEAE		
..OSCILLATORIALES		
..OSCILLATORIA		
...OSCILLATORIA	9	6

AUG. 9, 1976 0845 HOURS

PHYTOPLANKTON 45,000 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
...COELASTRACEAE		
...COELASTRUM	2,700	6
...OCCYSTACEAE		
...ANKISTRODESMUS	440	1
...CHODATELLA		
...DICTYOSPHAERIUM	8,700	19
...OCCYSTIS	3,600	8
...TETRAEDRON	890	2
...TREUBAKIA		
..SCENEDESMACEAE		
...SCENEDESMUS	1,600	3
...TETRASTRUM	2,700	6
..ZYGNEMATALES		
..DESMIDIACEAE		
...EUASTRUM	2,700	6
CHRYSTOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCEAE		
...CYCLOTELLA	1,100	2
..PENNALES		
...ACHNANTHACEAE		
...ACHNANTHES		
...NITZSCHIA		
...NITZSCHIA	6,400	14
CYANOPHYTA		
..MYXOPHYCEAE		
..CHROOCOCCALES		
..CHROOCOCCACEAE		
...AGMENELLUM	13,000	30

SEP. 22, 1976 1035 HOURS

PHYTOPLANKTON 220 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..SCENEDESMACEAE		
...SCENEDESMUS	14	6
..VOLVOCALES		
..CHLAMYDOMONADACEAE		
...CARTEZIA	14	6
...CHLAMYDOMONAS	9	4
CHRYSTOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCEAE		
...CYCLOTELLA	5	2
...MELOSIYA	14	6
..PENNALES		
...ACHNANTHACEAE		
...ACHNANTHES	5	2
...CYMBELLACEAE		
...AMPHORA	5	2
...CYMBELLA	14	6
...RHODALODIA		
...FRAGILARIACEAE		
...SYNEDRA	32	15
..GOMPHONEMATACEAE		
...GOMPHONEMA	9	4
...NAVICULACEAE		
...GYROSIGMA	5	2
...NITZSCHIA		
...NITZSCHIA	23	10
...ACHNANTHACEAE		
...RHODOSPIRA	5	2
CYANOPHYTA		
..MYXOPHYCEAE		
..OSCILLATORIALES		
..OSCILLATORIA		
...OSCILLATORIA		
EUGLENOPHYTA		
..CRYPTOPHYCEAE		
..CRYPTOMONADALES		
..CRYPTOCRYPTOSIDACEAE		
...CRYPTOMONAS	5	2
..CRYPTOMONADACEAE		
...CRYPTOMONAS	55	25
..EUGLENOPHYCEAE		
..EUGLENALES		
...EUGLENACEAE		
...EUGLENA	5	2

COLORADO RIVER BASIN

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08158000 Colorado River at Austin, Tex.--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

MONTH	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA+MG) (MG/L)
OCT. 1975.....	15521	544	300	12400	46	1940	33	1360	220
NOV. 1975.....	11610	545	300	9330	47	1460	32	1020	220
DEC. 1975.....	6101	564	310	5050	48	796	34	559	230
JAN. 1976.....	10255	566	310	8480	48	1340	34	950	230
FEB. 1976.....	2823	495	270	2040	42	317	29	219	210
MAR. 1976.....	20957	553	300	17000	47	2600	33	1870	220
APR. 1976.....	42501	510	280	31900	43	4950	30	3430	210
MAY 1976.....	45291	509	280	33800	43	5240	30	3660	210
JUNE 1976.....	69860	539	290	55300	46	8630	32	6060	220
JULY 1976.....	130550	540	290	103000	46	16200	32	11300	220
AUG. 1976.....	74880	531	290	54400	45	9120	32	6390	220
SEPT 1976.....	70060	524	280	53900	44	8410	31	5680	220
TOTAL	500409	**	**	340000	**	61100	**	42700	**
WTD.AVG.	1370.98	532	290	**	45	**	32	**	220

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C) WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	524	582	560	572	544	619	552	472	522	516	516	540
2	527	531	604	572	592	498	552	495	470	534	522	507
3	523	518	560	560	545	465	552	495	531	548	579	516
4	533	426	446	537	564	585	552	466	535	544	565	518
5	549	566	507	574	459	608	521	487	485	538	483	521
6	554	577	287	605	433	523	533	517	540	540	526	509
7	538	500	589	470	448	514	544	452	545	540	498	507
8	533	523	554	574	430	560	543	434	554	524	522	536
9	543	572	585	571	438	549	525	365	553	544	541	523
10	533	579	609	566	565	540	537	425	530	540	508	509
11	531	528	444	586	595	578	545	504	531	548	522	523
12	538	523	554	586	471	533	533	528	543	556	542	523
13	551	528	531	577	452	564	550	468	549	540	518	529
14	551	530	475	589	436	573	549	520	541	548	509	533
15	547	540	485	594	426	587	544	454	550	539	549	521
16	554	560	604	594	438	579	530	430	541	538	551	517
17	575	579	595	594	583	551	548	529	546	533	534	519
18	578	554	604	594	571	564	436	545	549	533	522	518
19	540	577	423	602	600	556	336	545	549	538	549	528
20	565	582	599	585	448	556	481	545	549	551	534	535
21	590	579	609	599	467	556	468	531	548	547	532	536
22	561	597	601	609	446	563	487	545	548	538	535	520
23	582	599	605	589	498	564	483	524	556	538	540	539
24	582	550	594	589	477	559	515	545	546	538	526	530
25	578	563	567	563	546	556	517	545	503	538	532	519
26	540	599	601	599	429	556	513	514	553	538	526	519
27	575	543	574	599	441	553	519	464	528	535	538	543
28	582	544	574	577	518	550	533	485	545	538	528	519
29	575	582	594	589	557	550	528	545	545	535	532	533
30	578	595	593	585	---	540	519	541	545	538	534	543
31	590	---	587	584	---	550	---	---	---	538	540	---
MONTH	554	556	552	580	500	555	518	497	538	539	531	524

COLORADO RIVER BASIN

08158000 Colorado River at Austin, Tex.--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.5	20.0	16.0	14.0	---	17.0	16.5	---	19.5	19.5	---	23.0
2	21.5	---	15.5	16.0	---	18.5	16.0	---	19.5	19.5	---	22.0
3	21.1	---	15.5	14.0	12.0	19.0	15.5	---	---	20.0	21.0	23.0
4	20.5	21.5	16.0	14.0	12.0	19.5	---	16.5	21.0	---	---	22.0
5	20.5	---	18.0	13.0	---	19.5	16.0	16.0	20.0	---	---	23.0
6	20.5	---	16.0	12.0	---	17.0	15.5	---	20.0	20.5	---	---
7	20.0	---	16.0	12.0	---	14.0	16.0	---	---	20.0	---	23.5
8	20.0	---	16.0	8.0	---	14.5	12.0	---	20.5	19.5	22.0	23.5
9	21.0	---	16.5	8.0	---	15.0	14.5	---	20.0	---	23.0	24.0
10	21.0	---	15.5	8.0	13.0	15.0	14.5	---	14.5	18.0	22.0	---
11	21.5	16.0	16.5	9.5	13.5	16.0	18.5	17.0	19.0	---	23.0	23.5
12	22.0	16.0	17.0	11.0	---	17.0	19.5	14.5	19.0	19.0	22.0	23.5
13	23.0	16.0	17.0	11.5	15.5	16.0	18.0	---	---	19.0	21.5	22.0
14	23.0	---	18.0	14.5	---	16.0	18.0	---	---	16.5	---	22.0
15	23.0	---	18.0	13.0	---	15.5	---	---	---	---	22.0	23.5
16	24.0	---	15.5	13.0	---	17.0	17.0	20.0	19.5	---	22.0	23.0
17	23.5	17.0	16.5	13.5	18.0	16.0	18.5	20.5	---	---	23.0	23.5
18	23.0	16.5	13.5	13.5	18.0	---	---	19.0	---	---	23.0	24.0
19	21.5	18.0	13.0	13.5	---	15.0	---	14.0	---	---	23.0	24.0
20	21.0	---	12.0	13.5	---	15.5	17.0	17.5	---	20.5	23.0	23.0
21	21.5	---	12.0	13.5	---	15.5	18.0	19.5	---	20.0	23.0	21.0
22	21.5	---	14.5	13.5	16.0	15.5	14.5	19.5	19.0	---	24.5	23.5
23	21.0	---	12.0	13.5	15.0	16.5	---	14.5	19.0	---	22.0	---
24	21.5	---	12.0	14.0	15.5	16.5	---	14.5	---	---	23.0	22.0
25	21.0	15.5	12.0	---	15.5	16.0	---	14.5	19.5	---	23.0	22.0
26	21.0	15.0	13.5	---	16.0	16.0	---	18.0	21.0	18.5	23.0	23.0
27	---	---	14.0	11.5	16.0	16.0	19.0	20.5	20.0	18.5	23.0	23.0
28	18.5	---	15.0	11.0	16.5	16.0	18.0	20.5	19.5	18.5	23.0	23.0
29	18.5	---	13.5	---	18.0	16.0	---	20.0	19.5	---	23.5	23.0
30	19.0	16.0	13.0	---	---	15.5	---	14.5	19.5	---	23.0	23.0
31	19.5	---	13.0	---	---	15.5	---	---	---	---	23.0	---
MONTH	21.0	---	15.0	12.5	---	16.5	---	---	---	---	---	23.0

08158050 Boggly Creek at U.S. Highway 183 near Austin, Tex.

LOCATION.--Lat 30°15'47", long 97°40'20", Travis County, on downstream side of northbound bridge on U.S. Highway 183, 1.6 miles (2.6 km) south of the intersection of Webberville Road and U.S. Highway 183, and 4.1 miles (6.6 km) east of the State capitol in Austin.

DRAINAGE AREA.--13.1 mi² (33.9 km²).

PERIOD OF RECORD.--Periodic chemical, biochemical, and pesticide analyses: January 1975 to current year.

DISCHARGE AND WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIO-CHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	IMMEDIATE COLIFORM (COL. PER 100 ML)	FECAL COLIFORM (COL. PER 100 ML)
NOV 03...	0830	1.4	607	7.9	17.5	5	2	9.4	98	1.2	20000	2700
JAN 05...	1005	.25	773	7.7	7.5	0	0	12.4	103	.5	380	73
FEB 23...	0920	.60	764	8.2	8.5	0	0	11.7	99	.4	1500	92
APR 05...	1325	244	193	7.9	17.5	120	420	7.5	78	5.6	140000	21000
05...	1510	242	159	8.1	17.5	80	340	7.4	77	5.8	74000	8800
06...	1100	3.3	426	7.8	20.0	20	10	8.8	96	.8	7800	2400
13...	1033	.41	706	8.2	22.5	0	1	12.9	147	.0	620	92
MAY 07...	0910	151	217	7.2	17.5	0	600	8.2	85	11	400000	51000
07...	1050	915	151	7.6	17.8	0	600	8.7	90	5.8	310000	64000
07...	1353	196	175	7.4	17.5	0	320	8.6	90	3.8	180000	31000
JUN 15...	0905	.46	746	7.8	25.5	0	2	10.6	132	.4	2000	320
SEP 03...	0825	.16	409	7.8	24.5	5	8	7.2	88	1.2	130000	27000

DATE	STREPTOCOCCI (COLONIES PER 100 ML)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)
NOV 03...	5800	--	--	--	--	--	--	--	--	--	--	--
JAN 05...	206	330	68	110	13	37	.9	2.1	318	0	59	55
FEB 23...	580	--	--	--	--	--	--	--	--	--	--	--
APR 05...	84000	--	--	--	--	--	--	--	--	--	--	--
05...	44000	66	4	24	1.4	4.3	.2	2.7	76	0	9.5	4.1
06...	3900	--	--	--	--	--	--	--	--	--	--	--
13...	420	--	--	--	--	--	--	--	--	--	--	--
MAY 07...	140000	93	16	33	2.6	9.3	.4	2.9	94	0	16	9.9
07...	140000	--	--	--	--	--	--	--	--	--	--	--
07...	90000	--	--	--	--	--	--	--	--	--	--	--
JUN 15...	1500	290	39	94	12	38	1.0	2.7	300	0	63	46
SEP 03...	11000	170	45	59	5.4	18	.6	3.6	152	0	43	22

DATE	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SiO2) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NON-FILTERABLE RESIDUE (MG/L)	VOL. NON-FILTERABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
NOV 03...	--	--	--	5	0	.39	.00	.01	.48	.06	4.0
JAN 05...	.3	14	448	1	0	1.2	.01	.01	.00	.02	3.2
FEB 23...	--	--	--	3	1	.77	.00	.01	.09	.02	1.2
APR 05...	--	--	--	1300	164	.35	.02	.09	1.3	.74	25
05...	.4	5.2	89	1170	164	.33	.03	.07	1.7	.70	24
06...	--	--	--	15	5	.46	.01	.01	.34	.11	11
13...	--	--	--	2	2	.69	.00	.01	.20	.01	11
MAY 07...	.3	5.7	126	2240	228	.26	.01	.09	2.5	1.3	35
07...	--	--	--	2240	224	.39	.02	.14	2.1	.61	17
07...	--	--	--	832	92	.12	.01	.02	1.1	.67	15
JUN 15...	.4	16	421	3	1	1.2	.01	.04	.11	.03	4.8
SEP 03...	.3	9.5	236	14	2	.57	.02	.01	.34	.09	4.6

COLORADO RIVER BASIN

08158050 Boggy Creek at U.S. Highway 183, Austin, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		DIS- SOLVED ALUM- INUM (AL) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)					
DATE	TIME												
JAN. 05...	1005	0	1	130	0	0	0	0					
MAY 07...	0910	10	11	90	0	3	0	2					
JUNE 15...	0905	10	3	130	0	0	0	0					
SEP. 03...	0825	20	15	--	0	0	0	6					
		DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)				
DATE	TIME												
JAN. 05...	40	0	10	0	.4	0	920	10					
MAY 07...	30	0	0	40	.1	0	170	20					
JUNE 15...	0	0	10	0	.1	0	800	0					
SEP. 03...	20	3	10	10	.1	3	340	20					
DATE	TIME	TOTAL PCB (UG/L)	POLY- CHLO- RINATED NAPH- THA- LENES (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLOR- DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	
JAN. 05...	1005	.0	--	.00	.0	.00	.00	.00	.00	.00	.00	.00	
JUNE 15...	0905	.0	.00	.00	.0	.01	.00	.00	.00	.00	.00	.00	
SEP. 03...	0825	.0	.00	.00	.0	.02	.01	.01	.07	.01	.00	.00	
DATE	TIME	TOTAL HEPTA- CHLOR (UG/L)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
JAN. 05...	400	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00	.00
JUNE 15...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00	.00
SEP. 03...	.00	.00	.00	.00	.00	.00	.00	0	.00	--	--	--	--

COLORADO RIVER BASIN

175

08158600 Walnut Creek at Webberville Road, Austin, Tex.

LOCATION.--Lat 30°16'59", long 97°39'17", Travis County, on left bank 190-ft (58 m) downstream from bridge on Farm Road 969, 0.8 mile (1.3 km) downstream from Little Walnut Creek, 2.8 miles (4.5 km) upstream from Colorado River, and 5.2 miles (8.4 km) east of the Capitol at Austin.

DRAINAGE AREA.--51.3 mi² (132.9 km²).

PERIOD OF RECORD.--May 1966 to current year.

GAGE.--Water-stage recorder. Datum of gage is 425.96 ft (129.833 m) above mean sea level.

AVERAGE DISCHARGE.--10 years, 23.2 ft³/s (0.657 m³/s), 6.14 in/yr (156 mm/yr), 16,810 acre-ft/yr (20.7 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 5,140 ft³/s (146 m³/s) May 26 (gage height, 19.07 ft or 5.813 m); minimum daily, 0.97 ft³/s (0.027 m³/s) Nov. 13.

Period of record: Maximum discharge, 10,500 ft³/s (297 m³/s) Nov. 23, 1974 (gage height, 26.16 ft or 7.974 m); no flow at times in 1967, 1971.

Maximum stage since at least 1891, that of Nov. 23, 1974; 25.56 ft (7.791 m) Oct. 11, 1973 (discharge, 10,000 ft³/s or 283 m³/s); 24 ft (7.3 m) occurred on June 15, 1935 (backwater from Colorado River); a flood in 1919 reached a stage of 22 ft (6.7 m), from information by local residents.

REMARKS.--Records good. No known regulation or diversion. Station is part of hydrologic research project to study rainfall-runoff relation for urban areas. Six recording rain gages are located in watershed.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	1.8	2.0	3.2	2.3	2.6	3.7	15	57	11	5.3	2.6
2	3.2	2.9	2.1	2.8	2.3	2.6	3.3	13	49	9.9	4.9	4.1
3	3.1	3.6	2.2	2.6	2.4	2.7	3.3	12	34	9.2	4.6	8.5
4	3.0	2.3	3.0	2.6	2.5	2.4	4.3	11	29	4.6	4.7	5.1
5	2.9	1.9	3.8	2.6	3.5	4.2	7.0	76	28	18	4.8	4.2
6	2.8	2.0	2.5	2.8	2.8	5.9	12	30	27	13	4.7	4.0
7	2.7	1.6	2.4	2.6	2.3	9.9	2.0	24.3	32	12	4.6	4.0
8	2.6	1.5	2.5	2.3	2.3	12	24	49	24	10	4.8	3.7
9	2.5	1.5	2.4	2.4	2.3	5.7	7.3	37	20	11	4.8	3.8
10	2.4	1.2	2.4	2.6	2.3	4.2	6.0	37	19	45	4.9	3.8
11	2.3	1.3	2.4	2.6	2.3	3.8	5.7	29	18	15	5.3	3.6
12	2.2	1.2	2.4	2.4	2.3	9.2	5.3	70	17	12	5.6	3.6
13	2.1	.97	2.4	2.4	2.3	5.8	5.0	123	15	12	4.7	3.7
14	2.0	1.2	2.4	2.4	2.3	4.4	5.2	40	14	24	3.7	10
15	1.9	1.5	2.8	2.3	2.3	3.9	6.7	31	14	71	3.6	12
16	1.8	1.5	4.9	2.3	2.6	3.6	39	27	13	32	3.3	4.9
17	1.7	1.5	3.2	2.3	16	3.4	9.9	24	13	18	3.1	4.1
18	1.6	2.2	2.5	2.4	4.1	3.3	1220	23	13	13	3.1	4.4
19	1.5	3.3	2.5	4.8	2.6	3.5	80	22	14	12	2.8	4.6
20	1.4	2.9	2.6	7.0	2.4	3.5	204	38	11	10	2.6	7.4
21	1.4	1.8	2.6	3.2	7.5	3.1	32	28	9.6	43	2.5	6.7
22	3.6	1.8	2.7	2.8	3.0	3.2	22	23	9.5	16	2.2	5.4
23	14	1.8	2.8	2.4	2.6	3.6	17	21	9.4	9.9	2.2	5.9
24	4.5	1.8	67	5.0	2.5	5.5	15	20	9.0	9.2	2.0	6.4
25	75	2.2	13	18	2.6	4.2	13	206	83	11	1.9	6.6
26	15	1.8	5.6	3.6	2.6	3.7	11	731	71	7.9	6.1	6.5
27	4.2	1.8	4.3	3.0	2.7	3.3	11	141	34	7.3	4.3	7.0
28	2.9	1.8	3.7	2.8	2.4	3.1	11	63	16	6.9	2.2	53
29	2.3	3.1	3.3	2.8	2.4	3.2	110	50	14	6.4	2.5	2.5
30	2.0	2.5	3.3	2.6	---	12	20	43	12	6.0	3.5	6.7
31	1.4	---	3.2	2.4	---	4.7	---	40	---	5.8	2.8	---
TOTAL	173.7	58.27	164.9	106.0	92.5	184.5	1996.7	2316	728.5	533.5	118.1	252.7
MEAN	5.57	1.84	5.32	3.42	3.14	5.95	66.6	74.7	24.3	17.2	3.81	8.42
MAX	75	3.6	67	18	16	42	1220	731	83	71	6.1	53
MIN	1.4	.97	2.0	2.3	2.3	2.6	3.3	11	9.0	5.8	1.9	2.6
CFSM	.11	.04	.10	.07	.06	.12	1.30	1.46	.47	.34	.07	.16
IN	.13	.04	.12	.08	.07	.13	1.45	1.68	.53	.39	.09	.18
AC-FT	345	116	327	210	183	366	3950	4590	1440	1050	234	501

C&L YR 1975 TOTAL 11893.17 MEAN 32.6 MAX 2000 MIN .97 CFSM .04 IN 8.62 AC-FT 23590
WTR YR 1976 TOTAL 6725.37 MEAN 18.4 MAX 1220 MIN .97 CFSM .30 IN 4.85 AC-FT 13340

PEAK DISCHARGE (BASE, 500 FT³/S)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
4-18	0815	18.95	5,070	5-12	2345	8.59	542
4-20	0415	9.66	760	5-26	0030	19.07	5,140
5- 7	1100	10.88	1,170	6-26	2045	8.42	518

COLORADO RIVER BASIN

08158600 Walnut Creek at Webberville Road, Austin, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPF- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIST- SOLVED OXYGEN (MG/L)	PEN- CENT SATUR- ATION	DIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)	IMME- DIATE COLI- FORM (COL. PER 100 ML)	FECAL COLI- FORM (COL. PER 100 ML)
APR. 02...	1210	2.5	583	7.7	19.5	9.2	99	.8	1300	240

DATE	STREP- TOCOCCI (COL- ONIES PER 100 ML)	BICAP- RONATE (HCO3) (MG/L)	CAR- RONATE (CO3) (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
APR. 02...	540	220	0	.08	.00	.01	.21	.01	6.9

COLORADO RIVER BASIN

08158640 Walnut Creek at Southern Pacific Railroad Bridge, Austin, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SI02) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NON-FILTERABLE RESIDUE (MG/L)	VOL. NON-FILTERABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
NOV 03...	--	--	--	16	5	1.2	.07	.86	3.8	5.4	12
JAN 05...	2.3	9.5	416	32	18	5.6	2.1	1.8	4.0	6.7	17
FEB 23...	--	--	--	45	38	2.4	.01	.09	13	1.6	16
APR 02...	--	--	--	--	--	.11	.29	14	2.0	7.0	25
05...	.7	6.5	209	524	88	.35	.06	1.6	3.1	1.8	13
05...	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	496	88	.40	.05	2.1	2.2	1.7	16
06...	--	--	--	42	24	.37	.09	2.3	3.8	5.0	15
13...	--	--	--	20	13	.50	1.1	11	3.0	6.4	8.2
20...	--	--	--	--	--	--	--	--	--	--	--
MAY 07...	--	--	--	1360	164	.27	.14	.03	2.2	1.4	13
07...	.4	7.7	248	3230	264	.35	.06	.07	2.3	.82	15
07...	--	--	--	2360	288	.27	.06	.05	2.0	1.2	--
JUN 15...	1.1	11	367	21	12	1.3	1.6	.18	2.8	2.9	10
AUG 24...	3.0	11	464	8	4	.52	.31	1.1	3.8	7.0	10
SEP 03...	--	--	--	--	--	--	--	--	--	--	--

DATE	TIME	DIS-SOLVED ALUMINUM (AL) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	DIS-SOLVED CHROMIUM (CR) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)
JAN. 05...	0910	0	2	320	0	0	0	2
MAY 07...	1140	0	1	150	0	0	0	2
JUNE 15...	0930	20	2	210	0	0	0	2
AUG. 24...	1045	30	3	--	0	0	0	2
SEP. 03...	0935	30	4	--	0	0	2	5

DATE	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MANGANESE (MN) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED STRONTIUM (SR) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
JAN. 05...	30	0	20	0	.4	0	540	20
MAY 07...	10	0	10	10	.2	0	650	0
JUNE 15...	10	0	10	0	.0	0	670	0
AUG. 24...	10	0	20	30	.0	5	430	20
SEP. 03...	50	2	20	0	.1	5	350	20

08158640 Walnut Creek at Southern Pacific Railroad Bridge, Austin, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		POLY-CHLORINATED NAPH-THA-LENES										
DATE	TIME	TOTAL PCB (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLOR-DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI-AZINON (UG/L)	TOTAL DI-ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	
JAN. 05...	0910	.0	--	.00	.0	.00	.00	.00	.27	.00	.00	
JUNE 15...	0930	.0	.00	.00	.0	.00	.00	.00	.13	.00	.00	
AUG. 24...	1045	.0	.00	.00	.0	.00	.00	.00	.18	.00	.00	
SEP. 03...	0935	.0	.00	.00	.0	.00	.01	.00	.22	.00	.00	
DATE		TOTAL HEPTA-CHLOR (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALA-THION (UG/L)	TOTAL METHYL PARA-THION (UG/L)	TOTAL METHYL TRI-THION (UG/L)	TOTAL PARA-THION (UG/L)	TOTAL TOX-APHENE (UG/L)	TOTAL TRI-THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
JAN. 05...	.00	.00	.03	.00	.00	.00	.00	0	.00	.15	.00	.00
JUNE 15...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.02	.00
AUG. 24...	.00	.00	.00	.00	.00	.00	.00	0	.00	.07	.13	.00
SEP. 03...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.14	.00

LOCATION.--Lat 30°12'28", long 97°38'15", Travis County, at bridge on Farm Road 973, 0.3 mile (0.5 km) northeast of intersection of State Highway 71 and Farm Road 973, and 9.6 miles (15.4 km) downstream from gaging station at Austin.

PERIOD OF RECORD.--Periodic chemical and biochemical analyses: February 1968 to current year. Pesticide analyses: October 1974 to current year.

DISCHARGE AND WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

[illegible]

08158650 Colorado River below Austin, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SI02) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL FILTRABLE RESIDUE (MG/L)	VOL. NON-FILTRABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
OCT 22...	--	11	346	7	4	.98	.32	2.7	1.0	1.5	7.0
NOV 25...	--	--	--	5	2	.57	.17	2.6	.80	1.3	11
DEC 09...	.5	10	354	10	7	1.2	.39	3.0	.80	1.7	7.2
JAN 28...	--	--	--	6	0	.77	.08	.85	.65	.53	3.4
FEB 19...	.5	9.3	330	12	3	.54	.13	2.0	.80	1.5	--
MAR 22...	--	--	--	8	8	.09	.01	.33	.47	.20	3.8
APR 13...	.4	8.8	293	6	1	.43	.11	.74	.56	.60	3.8
MAY 11...	--	--	--	12	0	.75	.06	.20	.31	.23	3.8
JUN 08...	.4	10	309	11	3	.42	.04	.16	.26	.20	8.0
JUL 12...	--	--	--	19	1	.19	.01	.09	.10	.09	2.4
AUG 10...	.4	10	306	2	0	.32	.02	.10	.20	.12	.8
SEP 22...	--	--	--	7	1	.23	.03	.14	.32	.15	2.0

DATE	TIME	DIS-SOLVED ALUMINUM (AL) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	DIS-SOLVED CHROMIUM (CR) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)
OCT. 22...	1115	0	2	120	0	0	0	2
FEB. 19...	1035	10	4	130	0	0	2	3
JUNE 08...	0900	0	0	70	0	0	0	0
AUG. 10...	0945	20	1	--	0	0	0	2

DATE	TIME	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MANGANESE (MN) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED STRONTIUM (SR) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
OCT. 22...		0	0	10	0	.4	0	620	0
FEB. 19...		0	0	10	10	.0	2	650	0
JUNE 08...		10	0	50	10	.1	0	670	10
AUG. 10...		0	2	10	0	.1	1	450	10

DATE	TIME	TOTAL PCB (UG/L)	POLY-CHLORINATED NAPHTHALENES (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLORDANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DIALAZINON (UG/L)	TOTAL DIELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)
CT. 22...	1115	.0	--	.00	.0	.00	.00	.00	.00	.00	.00	.00
EB. 19...	1035	.0	.00	.00	.0	.00	.00	.00	.11	.00	.00	.00
JUNE 08...	0900	.0	.00	.00	.0	.00	.00	.00	.00	.00	.00	.00
UG. 10...	0945	.0	.00	.00	.0	.00	.00	.00	.10	.00	.00	.00

DATE	TOTAL HEPTACHLOR (UG/L)	TOTAL HEPTACHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALATHION (UG/L)	TOTAL METHYL PARATHION (UG/L)	TOTAL METHYL TRIETHION (UG/L)	TOTAL PARAETHION (UG/L)	TOTAL TOXAPHENE (UG/L)	TOTAL TRIETHION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
OCT. 22...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00
FEB. 19...	.00	.00	.02	.00	.00	.00	.00	0	.00	.01	.01	.00
JUNE 08...	.00	.00	.00	.00	.00	.00	.00	0	.00	.09	.00	.00
AUG. 10...	.00	.00	.00	.00	.00	.00	.00	0	.00	.01	.00	.00

COLORADO RIVER BASIN

08158700 Onion Creek near Driftwood, Tex.
(Reconnaissance partial-record station)

LOCATION.--Lat 30°05'00", long 98°00'20", Hays County, at bridge at lower crossing on Farm Road 150, 3.2 miles (5.1 km) southeast of Driftwood, and 10 miles (16 km) west of Buda.

PERIOD OF RECORD.--Occasional discharge measurements: April 1958, November 1961 to current year. Occasional water-quality data: January 1974 to current year.

DISCHARGE AND WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	RIO-CHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	HARDNESS (CA+MG)
OCT											
26...	1715	36	448	8.1	17.5	0	2	9.3	97	1.0	230
NOV											
24...	1134	6.9	505	7.5	11.5	0	0	16.1	92	.4	260
DEC											
06...	1400	4.9	506	7.3	14.5	0	2	9.9	96	1.5	260
JAN											
28...	1340	6.5	492	7.9	10.0	0	0	10.8	96	.6	250
FEB											
14...	1410	40	468	8.0	18.5	5	1	8.8	94	.3	240
MAR											
22...	1245	12	483	7.4	18.5	0	1	9.6	102	1.1	250
APR											
12...	1145	86	487	7.6	21.5	0	1	8.7	98	.3	250
MAY											
17...	1500	.66	491	7.7	20.5	0	7	9.6	95	.6	260
JUN											
07...	1234	136	485	7.6	24.5	0	3	4.2	100	.4	250
JUL											
12...	1236	62	469	7.4	24.5	0	1	8.1	99	.6	250
AUG											
09...	1337	31	453	7.7	28.0	0	1	9.6	110	.0	220
SEP											
23...	1144	11	446	7.9	22.5	0	1	9.6	101	.4	230

DATE	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM SULFATE RATIO	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)
OCT											
26...	30	70	14	5.9	.2	1.4	244	0	21	9.1	--
NOV											
24...	32	75	18	8.2	.2	1.1	250	0	28	13	.4
DEC											
06...	24	73	18	8.3	.2	1.2	278	0	31	13	.2
JAN											
28...	38	71	18	8.1	.2	.9	260	0	34	13	.3
FEB											
14...	43	68	17	7.8	.2	1.1	240	0	31	12	.3
MAR											
22...	33	73	15	7.9	.2	.9	262	0	29	12	.4
APR											
12...	17	76	15	6.5	.2	1.2	286	0	20	8.8	.3
MAY											
17...	13	80	14	6.1	.2	1.1	298	0	17	9.3	.2
JUN											
07...	20	75	15	6.6	.2	1.0	280	0	19	10	.3
JUL											
12...	27	74	15	7.4	.2	1.2	268	0	18	10	.2
AUG											
09...	10	64	15	7.6	.2	1.2	258	0	18	10	.2
SEP											
23...	25	64	16	7.9	.2	1.2	245	0	22	11	.2

COLORADO RIVER BASIN

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08158700 Onion Creek near Driftwood, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED SILICA (MG/L)	DIS- SOLVED SOLIDS (MG/L)	TOTAL NON- FILT- RABLE RESIDUE (MG/L)	VOL. NON- FILT- RABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
OCT 26...	9.1	253	4	1	.15	.00	.02	.13	.02	2.2
NOV 24...	8.4	290	1		.02	.00	.02	.11	.02	4.0
DEC 04...	8.3	290	1	1	.03	.01	.05	.13	.00	4.4
JAN 28...	7.0	280	6	1	.01	.00	.00	.20	.01	4.2
FEB 19...	8.6	265	2		.00	.00	.00	.17	.00	1.2
MAR 22...	8.4	277	1	1	.01	.00	.01	.04	.00	2.2
APR 12...	9.4	274	2		.31	.00	.00	.12	.01	16
MAY 10...	9.3	244	10	9	.35	.00	.00	.11	.00	2.4
JUN 07...	9.4	275	1		.21	.00	.01	.09	.01	7.5
JUL 12...	9.5	267	1		.16	.00	.02	.06	.01	1.0
AUG 09...	11	255	1		.09	.00	.01	.09	.03	.6
SEP 23...	9.8	253	0		1.5	.01	.01	.26	.01	1.0

DATE	TIME	DIS- SOLVED ALUM- INUM (AL) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)
OCT. 26...	1715	0	1	0	0	1	0	0
FEB. 19...	1410	10	1	40	1	4	1	7
JUNE 07...	1230	0	0	50	0	0	0	0
AUG. 09...	1307	40	0	--	0	0	0	2

DATE	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)
OCT. 26...	0	0	1	0	.0	0	440	4
FEB. 19...	0	0	0	0	.3	0	350	10
JUNE 07...	10	0	10	0	.2	0	250	0
AUG. 09...	0	0	0	0	.1	0	250	10

LOCATION.--Lat 30°14'06", long 97°51'36", Travis County, at U.S. Highway 290 road crossing in Oak Hill and 7.7 miles (12.4 km) southwest of the State Capitol at Austin.

PERIOD OF RECORD.--Occasional discharge measurements and water-quality data: January 1974 to current year.

DISCHARGE AND WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

[illegible]

DATE	DIS-SOLVED SILICA (SIOP) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	TOTAL FILT-ABLE RESIDUE (MG/L)	VOL. FILL-ABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL ORGANIC NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
APR 12...	6.1	354	2		.34	.11	.11	.32	.65	5.3
MAY 10...	6.4	345	1		.49	.04	.05	.24	.19	2.6
JUN 07...	4.6	357	1	1	.13	.02	.00	.20	.32	7.5
JUL 12...	4.7	346	6	2	.05	.01	.02	.16	.18	2.0

		DIS- SOLVED ALUM- INUM (AL) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	
DATE	TIME								
JUNE 07...	1300	0	0	70	0	0	0	0	
DATE		DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)
JUNE 07...	10	8	0	0	.2	0	470	0	

08158970 Williamson Creek at Jimmy Clay Road, Austin, Tex.

LOCATION.--Lat 30°11'21", long 97°43'56", Travis County, at Jimmy Clay Road, 0.5 mile (0.8 km) southeast of the Intersection of Jimmy Clay and Nuckles Crossing Roads, and 5.9 miles (9.5 km) south of the State Capitol in Austin.

DRAINAGE AREA.--27.6 mi² (71.5 km²).

PERIOD OF RECORD.--Discharge: November 1974 to September 1975 (periodic discharge measurements only), September 1975 to current year.
Water quality: Periodic chemical, biochemical, and pesticide analyses: January 1975 to current year.

GAGE.--Water-stage recorder. Datum of gage is 497.18 ft (151.54 m) above mean sea level.

EXTREMES.--September 1975: Maximum discharge, 815 ft³/s (23.1 m³/s) Sept. 20 (gage height, 6.16 ft or 1.878 m); minimum not determined.
Water year 1976: Maximum discharge, 3,490 ft³/s (98.8 m³/s) Apr. 18 (gage height, 10.45 ft or 3.195 m); minimum, 0.32 ft³/s (0.009 m³/s) Sept. 1.

Period of record: Maximum discharge, 10,100 ft³/s (286 m³/s) Nov. 23, 1974 (gage height, 15.2 ft or 4.63 m, from Floodmark), by slope-area measurement; minimum not determined.

The maximum flood since 1869 occurred on Sept. 9 or 10, 1921, stage and discharge not determined.

REMARKS.--Discharge records good. No known regulation or diversion. There are two recording rain gages located in the basin above the gage.

DISCHARGE, IN CUBIC FEET PER SECOND, SEPTEMBER 1975

Sept. 11..... 1.3	Sept. 16..... 1.7	Sept. 21..... 5.5	Sept. 26..... 1.4
12..... 1.3	17..... 2.3	22..... 2.3	27..... 1.5
13..... 1.3	18..... 1.6	23..... 2.0	28..... 1.6
14..... 1.2	19..... 1.5	24..... 1.7	29..... 1.8
15..... 1.2	20..... 111	25..... 1.6	30..... 1.9

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	1.4	1.6	1.3	1.4	1.6	2.2	7.3	17	1.8	2.0	.38
2	1.9	1.7	1.6	1.3	1.4	1.4	2.0	6.8	32	1.7	2.0	41
3	1.7	1.5	1.6	1.1	1.5	1.4	2.2	6.8	8.0	1.4	2.2	3.3
4	1.7	1.3	1.9	1.3	1.6	1.4	4.0	5.4	5.9	4.8	2.6	1.0
5	1.7	1.3	1.9	1.8	1.8	2.4	4.2	5.2	5.3	11	3.1	.54
6	1.7	1.4	1.7	1.4	1.9	2.2	9.3	21	4.9	4.1	3.2	.82
7	1.7	1.6	1.4	1.3	1.9	2.9	11	20.5	4.6	2.6	2.8	.63
8	1.9	1.6	1.3	1.3	2.0	7.4	26	23	4.6	2.3	2.4	.63
9	1.9	1.4	1.2	1.3	2.0	3.1	7.9	14	4.4	3.1	2.3	.72
10	1.9	1.6	1.2	1.3	2.0	1.8	6.2	13	4.2	6.0	2.2	.93
11	1.9	1.4	1.2	1.5	2.1	1.6	5.8	10	4.2	5.5	2.4	1.3
12	1.7	1.4	1.2	1.6	2.2	1.6	5.6	17	4.0	3.8	2.3	1.7
13	1.7	1.6	1.3	1.7	2.2	2.0	5.7	37	3.7	4.6	2.2	1.9
14	1.6	1.4	1.3	1.9	2.2	2.8	5.8	12	3.4	23	2.0	1.9
15	1.6	1.6	2.9	1.9	2.2	1.6	6.8	8.8	3.3	34	1.9	1.9
16	1.4	1.7	1.9	1.9	2.0	1.6	26	7.9	3.1	12	1.8	1.9
17	1.3	1.9	1.0	1.9	9.0	1.4	7.5	6.8	2.7	12	2.3	1.4
18	1.3	1.9	.73	2.0	3.6	1.6	90.2	6.6	2.5	4.8	2.5	1.4
19	1.3	2.4	.72	2.3	1.8	1.6	81	6.4	2.2	3.5	1.4	1.6
20	1.3	2.0	.72	3.1	1.7	1.7	103	23	2.0	3.3	1.0	2.7
21	1.4	1.6	.72	1.7	3.7	2.0	33	12	1.7	3.0	1.0	1.4
22	2.0	1.4	.72	1.7	1.6	3.5	18	7.2	1.7	3.0	1.0	.63
23	1.9	1.4	.72	1.6	1.3	2.7	12	6.2	1.7	2.9	1.0	.54
24	1.3	1.6	4.4	2.3	1.3	2.6	9.7	6.8	1.6	5.0	.87	.54
25	4.5	1.6	6.8	9.9	1.4	2.7	7.6	6.2	4.8	4.7	.86	.63
26	8.1	1.6	1.9	2.0	1.4	2.2	6.5	12.5	5.9	2.8	.82	.82
27	1.7	1.6	1.5	1.4	1.5	2.4	5.8	23	9.8	2.5	.63	1.0
28	1.1	1.7	1.4	1.6	1.6	2.7	5.8	10	3.0	2.4	.63	11
29	.94	2.2	1.3	1.6	1.6	4.0	51	4.0	2.1	2.5	1.2	3.1
30	.90	2.0	1.2	1.6	---	4.5	8.8	7.3	2.2	1.9	1.4	.93
31	.96	---	1.3	1.6	---	3.3	---	7.0	---	2.0	.46	---
TOTAL	118.40	48.8	89.93	60.2	61.9	137.8	1420.2	708.5	199.6	221.2	54.47	88.24
MEAN	3.82	1.63	2.90	1.94	2.13	4.45	47.3	22.9	6.65	7.14	1.76	2.94
MAX	65	2.4	4.4	9.9	9.0	45	902	20.5	4.8	4.8	3.2	41
MIN	.90	1.3	.72	1.1	1.3	1.4	2.0	5.8	1.6	1.4	.46	.38
CFSM	.14	.06	.11	.07	.08	.16	1.71	.83	.24	.26	.06	.11
IN.	.16	.07	.12	.08	.08	.19	1.91	.95	.27	.30	.07	.12
AC-FT	235	97	178	119	123	273	2820	1410	396	439	108	175
(††)	3.38	.52	2.05	1.16	.87	3.34	9.41	7.37	1.88	4.32	.35	3.21

CAL YR 1975	TOTAL	-	MEAN	-	MAX	-	MIN	-	CFSM	-	IN	-	AC-FT	-	††	-
WTR YR 1976	TOTAL	3209.24	MEAN	8.77	MAX	902	MIN	.38	CFSM	.32	IN	4.33	AC-FT	6370	††	37.86

PEAK DISCHARGE ABOVE BASE (950 FT³/S), OR FOR WATER QUALITY ANALYSIS

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
4-5	0500	3.27	134	5-5	1915	4.86	420
4-18	0945	10.45	3,490	5-7	1000	6.69	1,020

†† Weighted-mean rainfall, in inches.

COLORADO RIVER BASIN

08158970 Williamson Creek at Jimmy Clay Road, Austin, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

[illegible]

COLORADO RIVER BASIN

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08158970 Williamson Creek at Jimmy Clay Road, Austin, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NON- FILT- RABLE RESIDUE (MG/L)	VOL. NON- FILT- RABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
NOV 04....	--	--	--	3	0	.26	.05	.56	.44	.07	4.4
DEC 10....	--	--	--	--	--	--	--	--	--	--	--
24....	--	--	--	--	--	--	--	--	--	--	--
JAN 06....	.3	10	385	3	0	.48	.05	.74	.36	.05	3.6
21....	--	--	--	--	--	--	--	--	--	--	--
FEB 24....	--	--	--	13	3	.51	.04	.67	1.2	1.1	8.6
MAR 02....	--	--	--	--	--	--	--	--	--	--	--
APH 05....	--	--	--	--	--	--	--	--	--	--	--
05....	.5	6.8	157	100	27	.34	.02	.07	.79	.24	12
19....	--	--	--	--	--	--	--	--	--	--	--
MAY 05....	--	--	--	38	3	.36	.01	.07	.42	.08	4.0
05....	--	--	--	1280	142	.36	.01	.02	1.5	.39	16
05....	.3	6.9	245	710	110	.23	.01	.01	1.5	.46	17
05....	--	--	--	--	--	--	--	--	--	--	--
06....	--	--	--	222	24	.29	.01	.02	.86	.26	10
07....	--	--	--	--	--	--	--	--	--	--	--
27....	--	--	--	--	--	--	--	--	--	--	--
JUN 14....	.5	12	374	29	2	.61	.08	.24	.24	.06	5.8
JUL 09....	--	--	--	--	--	--	--	--	--	--	--
AUG 23....	--	--	--	--	--	--	--	--	--	--	--
SEP 03....	--	--	--	--	--	--	--	--	--	--	--

DATE	TIME	DIS- SOLVED ALUM- INUM (AL) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)
JAN. 06....	1220	0	3	200	1	0	0	0
MAY 05....	2022	0	1	120	0	11	0	2
JUNE 14....	1000	10	3	170	0	0	0	0
SEP. 03....	1345	20	4	--	0	0	2	4

DATE	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)
JAN. 06....	30	0	10	280	.3	0	650	10
MAY 05....	10	0	0	10	.1	7	300	0
JUNE 14....	0	0	20	90	.3	0	500	0
SEP. 03....	20	2	10	60	.0	7	290	20

COLORADO RIVER BASIN

08158970 Williamson Creek at Jimmy Clay Road, Austin, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL PCB (UG/L)	POLY- CHLO- RINATED NAPH- THA- LENES (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLOR- DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)
JAN. 06...	1220	.0	--	.00	.0	.00	.00	.00	.00	.00	.00	.00
JUNE 14...	1000	.0	.00	.00	.0	.00	.00	.00	.00	.00	.00	.00
SEP. 03...	1345	.0	.00	.00	.0	.00	.00	.00	.11	.00	.00	.00

DATE	TOTAL HEPTA- CHLOR (UG/L)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
JAN. 06...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00
JUNE 14...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00
SEP. 03...	.00	.00	.00	.01	.00	.00	.00	0	.00	.00	.11	.00

COLORADO RIVER BASIN

08159000 Onion Creek at U.S. Highway 183 near Austin, Tex.

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LOCATION.--Lat 30°10'40", Long 97°41'18", Travis County, on right bank at downstream side of downstream bridge on U.S. Highway 183, 2.4 miles (3.9 km) downstream from Williamson Creek, 3.2 miles (5.1 km) southwest of Del Valle, and 7.3 miles (11.7 km) southeast of the State Capitol in Austin.

DRAINAGE AREA.--321 mi² (831 km²).

PERIOD OF RECORD.--May 1924 to March 1930, and March to September 1976. Discharge records for the period 1924-30 were published as monthly and annual figures in WSP 1312 as Onion Creek near Del Valle.

GAGE.--Water-stage recorder. May 15, 1924, to Mar. 15, 1930, nonrecording gage at highway bridge 1,700 ft (518 m) upstream at 6.42 ft (1.96 m) higher datum.

AVERAGE DISCHARGE.--5 years (1924-29), 82.3 ft³/s (2,331 m³/s), 59,630 acre-ft/yr (73.5 hm³/yr).

EXTREMES.--Maximum discharge during period March to September 1976, 10,100 ft³/s (286 m³/s) Apr. 18 (gage height, 19.64 ft or 5.986 m); minimum, 3.6 ft³/s (0.10 m³/s) Aug. 28-30.

Period of record: Maximum discharge, 76,000 ft³/s (2,150 m³/s) May 28, 1929 (gage height, 30.5 ft or 9.30 m), present datum.

Maximum stages since 1869 occurred about July 3, 1869, stage about 38 ft (11.6 m) from newspaper accounts, and Sept. 9, 1921, stage 38.0 ft (11.58 m) from floodmark, present site and datum.

REMARKS.--Records good. No known regulation, but many small diversions on and off channel.

DISCHARGE, IN CUBIC FEET PER SECOND, MARCH TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						---	13	139	2770	31	42	5.0
2						---	11	117	523	28	36	71
3						---	9.9	105	295	25	31	33
4						---	9.9	92	223	68	29	18
5						---	247	151	205	114	30	13
6						---	68	2300	185	79	22	11
7						---	35	2870	169	59	19	9.6
8						---	601	530	161	46	16	9.3
9						---	131	376	155	67	14	8.2
10						---	70	359	122	61	12	7.8
11						---	50	305	112	62	10	7.6
12						---	38	276	101	64	8.7	7.4
13						---	31	491	93	66	7.0	8.0
14						---	28	282	86	75	6.2	8.0
15						---	28	232	78	175	6.6	7.4
16						---	88	209	72	173	7.0	7.0
17						---	55	187	74	220	7.0	7.2
18						---	5370	174	69	149	10	7.1
19						---	1460	152	62	122	7.8	6.9
20						---	1290	283	57	105	7.4	9.9
21						---	721	237	52	92	7.0	16
22						---	460	168	49	85	7.0	11
23						10	342	145	44	81	5.4	9.0
24						9.9	132	128	38	75	5.4	9.0
25						9.7	243	133	99	68	5.5	8.3
26						8.7	197	2510	46	103	5.4	7.5
27						7.9	172	436	82	82	4.9	7.2
28						7.8	157	241	71	61	3.9	22
29						8.1	379	206	45	57	3.7	21
30						83	181	186	36	51	5.8	13
31						21	---	177	---	44	5.7	---
TOTAL						---	12617.8	14307	6179	2588	388.4	386.4
MEAN						---	421	462	206	83.5	12.5	12.9
MAX						---	5370	2870	2770	220	42	71
MIN						---	9.9	92	36	25	3.7	5.0
CFSM						---	1.31	1.44	.64	.26	.04	.04
IN.						---	1.46	1.66	.72	.30	.05	.04
AC-FT						---	25030	28380	12260	5130	770	766

WTR YR 1976 TOTAL - MEAN - MAX - MIN - CFSM - IN - AC-FT -

PEAK DISCHARGE (BASE, 2,500 FT³/S)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
4-18	1400	19.64	10,100	5-26	0830	15.23	5,400
5-7	1030	17.21	7,240	6-1	0645	18.88	9,300

COLORADO RIVER BASIN

08159100 Onion Creek below Del Valle, Tex.
(Reconnaissance partial-record station)

LOCATION.--Lat 30°11'22", long 97°37'12", Travis County, 600 ft (180 m) upstream from bridge on State Highway 71 and 2.4 miles (3.9 km) southeast of Del Valle.

PERIOD OF RECORD.--Occasional discharge measurements: April 1958, November 1961 to current year. Occasional water-quality data: January 1974 to current year. Pesticide analyses: October 1974 to current year.

DISCHARGE AND WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	IMMEDIATE COLIFORM (COL. PER 100 ML)	FECAL COLIFORM (COL. PER 100 ML)
OCT 22...	1020	.30	722	7.6	20.0	0	2	8.0	87	1.2	280	32
NOV 25...	0930	42	736	7.4	11.0	0	1	9.1	82	.3	120	37
DEC 09...	0900	.85	728	7.3	12.5	0	3	8.8	82	1.4	540	120
JAN 28...	0945	.40	691	7.5	9.5	0	15	9.7	85	.7	100	27
FEB 19...	1105	1.1	684	7.7	17.5	0	6	7.5	78	.7	180	120
MAR 22...	1030	1.1	664	7.4	18.0	0	4	8.2	86	.8	100	52
APR 13...	1015	70	486	7.2	22.0	10	20	6.9	78	.7	500	120
MAY 11...	1000	250	515	7.5	21.5	0	30	8.7	98	.9	12000	140
JUN 08...	1030	128	502	7.9	25.5	0	10	7.5	94	.7	600	64
JUL 12...	1030	132	517	7.4	25.5	0	8	7.1	89	.7	480	78
AUG 10...	1015	74	568	7.5	28.0	0	3	6.7	86	.0	4200	63
SEP 22...	1335	9.6	652	7.5	24.0	0	2	8.0	98	.3	420	47

DATE	STREPTOCOCCI (COLONIES PER 100 ML)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISSOLVED PHOSPHATE (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)
OCT 22...	160	320	60	94	21	33	.8	2.4	320	0	48	44
NOV 25...	120	320	40	95	19	34	.8	2.5	336	0	46	45
DEC 09...	90	320	57	98	19	35	.8	2.5	324	0	47	46
JAN 28...	20	280	39	85	17	35	.9	2.1	296	0	47	47
FEB 19...	130	270	43	81	17	38	1.0	2.0	280	0	49	51
MAR 22...	100	270	50	82	15	34	.9	2.4	264	0	55	47
APR 13...	380	200	25	62	11	19	.6	3.4	214	0	36	23
MAY 11...	680	250	17	78	13	11	.3	1.7	282	0	26	14
JUN 08...	270	240	24	72	14	14	.4	1.7	260	0	27	16
JUL 12...	290	230	33	72	13	18	.5	2.1	244	0	31	22
AUG 10...	280	240	25	69	16	23	.6	2.1	260	0	35	29
SEP 22...	280	260	31	76	18	33	.9	2.4	284	0	39	45

COLORADO RIVER BASIN

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08159100 Onion Creek below Del Valle, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SiO ₂) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NON-FILT-RAHLE RESIDUE (MG/L)	VOL. NON-FILT-RABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
OCT 22...	--	13	414	3	2	.85	.00	.02	.51	.03	3.6
NOV 25...	.6	11	419	3	1	.80	.00	.00	.24	.01	4.2
DEC 09...	.4	11	419	5	2	2.0	.01	.03	.23	.02	6.4
JAN 28...	.4	6.4	386	21	2	1.5	.01	.02	.40	.01	3.6
FEB 19...	.3	8.2	385	12	3	.28	.00	.03	.51	.01	2.6
MAR 22...	.5	7.5	374	12	7	.44	.00	.04	.32	.02	2.9
APR 13...	.3	12	272	28	3	.86	.02	.10	.47	.05	4.8
MAY 11...	.3	11	294	49	0	.62	.01	.02	.24	.04	3.8
JUN 08...	.3	11	285	3	3	.73	.01	.01	.19	.01	7.9
JUL 12...	.3	12	291	13	2	1.1	.01	.04	.17	.01	3.0
AUG 10...	.3	14	317	5	1	1.5	.01	.02	.18	.02	.2
SEP 22...	.3	13	367	4	1	.01	.00	.01	.09	.00	1.5

DATE	TIME	DIS-SOLVED ALUMINUM (AL) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	DIS-SOLVED CHROMIUM (CR) (UG/L)	DIS-SOLVED COBALT (CU) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)
OCT. 22...	1020	0	1	190	0	0	0	0
FEB. 19...	1105	10	1	200	0	10	0	0
JUNE 08...	1030	10	1	70	0	0	0	0
AUG. 10...	1015	30	1	--	0	0	0	0

DATE	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MANGANESE (MN) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED STRONTIUM (SR) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
OCT. 22...	0	0	20	8	.0	0	830	2
FEB. 19...	0	0	20	0	.0	2	650	0
JUNE 08...	0	0	10	0	.0	0	250	0
AUG. 10...	0	0	10	0	.1	0	460	10

DATE	TIME	TOTAL PCB (UG/L)	POLY-CHLORINATED NAPHTHALENES (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLORDANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI-AZINON (UG/L)	TOTAL DI-ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)
OCT. 22...	1020	.0	--	.00	.0	.00	.00	.00	.00	.00	.00	.00
FEB. 19...	1105	.0	.00	.00	.0	.00	.00	.00	.00	.00	.00	.00
JUNE 08...	1030	.0	.00	.00	.0	.00	.00	.00	.00	.00	.00	.00
AUG. 10...	1015	.0	.00	.00	.0	.00	.00	.00	.00	.00	.00	.00

DATE	TOTAL HEPTACHLOR (UG/L)	TOTAL HEPTACHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALATHION (UG/L)	TOTAL METHYL PARATHION (UG/L)	TOTAL METHYL TRIETHION (UG/L)	TOTAL PARAETHION (UG/L)	TOTAL TOXAPHENE (UG/L)	TOTAL TRIETHION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
OCT. 22...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00
FEB. 19...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00
JUNE 08...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00
AUG. 10...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00

COLORADO RIVER BASIN

08159150 Wilbarger Creek near Pflugerville, Tex.

LOCATION.--Lat 30°27'16", long 97°36'02", Travis County, on left bank downstream from county road (Pflugler Lane), 800 ft (240 m) downstream from Farm Road 685, 1.6 miles (2.6 km) northeast of Pflugerville, and 1.9 miles (3.1 km) downstream from Missouri-Kansas-Texas Railroad.

DRAINAGE AREA.--4.61 mi² (11.9 km²).

PERIOD OF RECORD.--August 1963 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 670.61 ft (204.402 m) above mean sea level.

AVERAGE DISCHARGE.--13 years, 1.95 ft³/s (0.055 m³/s), 5.74 in/yr (146 mm/yr), 1,410 acre-ft/yr (1.74 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 568 ft³/s (16.1 m³/s) Apr. 18 (gage height, 4.27 ft or 1.301 m); no flow for many days.
Period of record: Maximum discharge, 1,760 ft³/s (49.8 m³/s) June 16, 1964 (gage height, 6.92 ft or 2.109 m); no flow at times most years.
Maximum stage since at least 1894, occurred in September 1921, stage unknown, from information by local residents.

REMARKS.--Records good. Station is part of a hydrologic research project to study rainfall-runoff relations for small urban-rural areas. Three recording rain gages located in watershed.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	.02	.02	.03	.04	.02	.03	3.0	11	.20	.12	0
2	.04	.02	.02	.03	.04	.02	.03	2.1	4.2	.17	.09	.02
3	.03	.03	.02	.03	.04	.03	.03	1.5	2.4	.17	.09	.02
4	.03	.02	.03	.03	.04	.03	.04	1.3	1.7	.30	.10	0
5	.02	.02	.04	.03	.04	.03	.25	13	1.6	.27	.08	0
6	.03	.02	.03	.03	.04	.04	.13	5.9	1.3	.21	.07	0
7	.03	.02	.02	.03	.02	.10	.15	40	1.2	.25	.06	0
8	.02	.02	.02	.03	.04	.11	.21	8.1	1.1	.20	.04	0
9	.02	.02	.02	.03	.04	.05	.15	7.0	.96	.25	.05	0
10	.02	.02	.02	.04	.04	.04	.13	8.1	.86	.54	.03	0
11	.02	.02	.02	.04	.04	.03	.11	4.6	.77	.51	.02	0
12	.02	.02	.02	.04	.03	6.9	.11	15	.67	.44	.02	0
13	.01	.01	.02	.04	.03	.20	.11	20	.60	.26	.02	0
14	.01	.03	.02	.04	.03	.13	.11	4.9	.57	.30	.02	0
15	.02	.06	.04	.04	.03	.12	.12	3.2	.55	1.6	.01	0
16	.01	.05	.04	.04	.03	.07	.25	2.6	.48	1.3	.02	0
17	.02	.03	.04	.04	.04	.07	.18	2.0	.42	.63	.03	0
18	.01	.02	.03	.04	.03	.06	86	1.7	.42	.45	.02	0
19	.01	.02	.03	.03	.03	.07	6.6	1.5	.43	.36	.02	0
20	.02	.02	.03	.04	.02	.07	22	2.4	.41	.31	.02	0
21	.01	.02	.03	.07	.05	.04	3.7	2.5	.30	.32	.01	0
22	.01	.02	.03	.07	.02	.05	2.7	1.8	.29	.36	.01	0
23	.02	.01	.03	.06	.01	.06	2.1	1.4	.24	.27	.01	0
24	.01	.01	.28	.06	.01	.07	2.0	1.2	.27	.24	.01	0
25	.06	.01	.09	.11	.03	.06	1.7	3.1	.54	.25	.01	0
26	.07	.03	.05	.04	.02	.04	1.4	79	.34	.23	0	0
27	.03	.03	.04	.04	.02	.03	1.3	5.9	.33	.20	0	0
28	.03	.03	.04	.04	.02	.04	1.4	4.0	.23	.17	0	.11
29	.03	.04	.04	.05	.02	.05	30	2.9	.22	.17	0	.02
30	.02	.03	.03	.05	---	.04	4.2	2.3	.20	.15	0	.01
31	.02	---	.03	.04	---	.03	---	2.3	---	.15	0	---
TOTAL	.73	.72	1.22	1.33	.89	8.70	167.24	254.3	34.60	11.23	.98	.18
MEAN	.024	.024	.039	.043	.031	.28	5.57	8.20	1.15	.36	.032	.006
MAX	.07	.06	.28	.11	.05	6.9	86	79	11	1.6	.12	.11
MIN	.01	.01	.02	.03	.01	.02	.03	1.2	.20	.15	0	0
CFSM	.005	.005	.008	.009	.006	.06	1.21	1.78	.25	.08	.006	.001
IN.	.006	.006	.010	.01	.007	.07	1.35	2.05	.28	.09	.008	.001
AC-FT	1.4	1.4	2.4	2.6	1.8	17	332	504	69	22	1.9	.4

CAL YR 1975 TOTAL 875.19 MEAN 2.40 MAX 104 MIN .01 CFSM .52 IN 7.06 AC-FT 1740
WTR YR 1976 TOTAL 482.12 MEAN 1.32 MAX 86 MIN 0 CFSM .29 IN 3.89 AC-FT 956

PEAK DISCHARGE (BASE, 400 FT³/S).--Apr. 18 (0715) 568 ft³/s (4.27 ft); May 26 (0130) 463 ft³/s (3.93 ft).

COLORADO RIVER BASIN

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08159200 Colorado River at Bastrop, Tex.

LOCATION.--Lat 30°06'20", long 97°19'08", Bastrop County, on left bank in city park at Bastrop, 400 ft (122 m) upstream from bridge on State Highway 71, 0.3 mile (0.5 km) upstream from Gills Creek, 1.1 miles (1.8 km) downstream from Piney Creek, and at mile 236.8 (381.0 km).

DRAINAGE AREA.--39,400 mi² (102,000 km²), approximately, of which 12,880 mi² (33,360 km²) is probably noncontributing.

PERIOD OF RECORD.--March 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 307.38 ft (93.689 m) above mean sea level. Prior to May 10, 1960, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--16 years, 2,212 ft³/s (62.64 m³/s), 1,603,000 acre-ft/yr (1.98 km³/yr).

EXTREMES.--Water year 1974: Maximum discharge, about 38,000 ft³/s (1,080 m³/s) Oct. 12; minimum daily, 310 ft³/s (8.78 m³/s) Mar. 7, 8.

Water year 1975: Maximum discharge, about 55,000 ft³/s (1,560 m³/s) May 24; minimum daily, 708 ft³/s (20.1 m³/s) Sept. 23.

Water year 1976: Maximum discharge, 31,500 ft³/s (895 m³/s) Apr. 19 (gage height, 20.55 ft or 6.264 m); minimum daily, 180 ft³/s (5.10 m³/s) Mar. 1.

Period of record: Maximum discharge, 79,600 ft³/s (2,250 m³/s) Oct. 29, 1960 (gage height, 34.45 ft or 10.500 m); minimum daily, 75 ft³/s (2.12 m³/s) Apr. 1, 1964.

Maximum stage since at least 1845, 60.3 ft (18.38 m) July 7 or 8, 1869. Flood of June 16, 1935, reached a stage of 57.0 ft (17.37 m), and flood of Dec. 4, 1913, reached a stage of 53.3 ft (16.25 m), from information by local residents.

REMARKS.--Records for the 1974-75 water years are fair. Records for the 1976 water year are good. Discharge for the 1974-75 water years were estimated on the basis of hydrograph comparison with Colorado River at Austin and at Smithville (stations 08158000 and 08159500, respectively). There are many diversions above stations for irrigation and municipal supply. Regulation is the same as that for Colorado River at Austin. The city of Austin reported that no water was diverted during the 1974-75 water years above this station by pumping into Decker Lake. During the 1976 water year, 1,665 acre-ft (2.05 hm³) was diverted above this station by pumping into Decker Lake. The Lower Colorado River Authority reported the following diversions above this station by pumping into Lake Bastrop: 4,240 acre-ft (5.23 hm³) during the 1974 water year, 2,450 acre-ft (3.02 hm³) during the 1975 water year, and 3,894 acre-ft (4.80 hm³) during the 1976 water year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1973 TO SEPTEMBER 1974
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	800	1520	1180	2860	610	450	370	1050	2480	2250	1800	2650
2	710	1240	1170	2050	560	390	700	860	1180	2200	1730	3020
3	1110	1100	1200	3200	510	355	645	1370	2280	1900	1800	2800
4	1630	1410	2080	3350	600	340	760	1520	2680	1850	1770	2600
5	1940	1000	2560	2940	860	340	680	1610	2450	1950	1890	2690
6	1360	1360	2560	2650	700	325	1590	1920	2300	1860	1910	2900
7	940	1690	2530	1820	600	310	1620	1730	2250	1900	2020	3070
8	900	1970	2600	2270	1250	310	1750	1910	2100	1900	1920	2950
9	940	1820	2450	2390	1640	500	1580	8400	2250	1850	1880	3000
10	5100	1460	2550	2420	1900	650	2070	13800	2200	1860	960	3060
11	32500	880	2750	2200	1520	680	2020	1880	2250	1850	1190	2790
12	15100	720	2700	2340	960	670	2020	3720	2100	1850	1190	5580
13	16500	1390	2520	3120	660	650	1760	4660	2150	1700	1190	10500
14	11800	1460	2590	2120	560	670	1820	4900	2200	1650	1180	5200
15	21800	1510	2910	1660	510	690	1880	5220	2250	1600	1140	2340
16	23000	1630	2600	2290	485	710	1850	5000	2200	1570	1160	1600
17	10100	1450	2550	2110	465	690	1670	2430	2350	1620	1510	3020
18	7900	1360	2670	3350	445	690	980	1260	2300	1620	1610	3600
19	6100	880	2920	3600	430	960	1850	1200	2250	1660	1580	4550
20	2900	1470	3550	2530	720	2640	1910	890	2250	1680	1800	6650
21	2850	1560	3650	2330	455	2880	1610	1800	2250	1720	1830	10300
22	4550	1550	2750	2470	630	2950	1460	2190	2200	1680	1800	12200
23	3800	2910	1810	3760	550	1610	960	2100	2450	1960	1800	6750
24	2900	2100	900	6620	415	1250	760	2100	2400	1900	1830	6180
25	1890	1140	725	6700	1170	1830	1200	2290	1700	1880	1870	6600
26	2610	950	1070	6990	1290	2110	1290	2650	2350	2060	1840	6450
27	4050	1100	2470	1790	810	1350	1350	2100	2400	2060	1720	6000
28	4000	1250	2650	1030	670	750	1490	2100	2450	1480	3050	6300
29	3600	1500	2300	870	---	510	1380	2290	2200	1650	6800	6100
30	2400	1500	2350	1070	---	440	1370	3750	2250	1900	2900	6450
31	2010	---	2520	690	---	405	---	2570	---	1920	1730	---
TOTAL	197790	42880	71835	85610	21975	29105	42395	91170	67120	56530	58400	147900
MEAN	6380	1429	2317	2762	785	939	1413	2941	2237	1824	1884	4930
MAX	32500	2910	3650	6990	1900	2950	2070	13800	2680	2250	6800	12200
MIN	710	720	725	690	415	310	370	860	1180	1480	960	1600
AC-FT	392300	85050	142500	169800	43590	57730	84090	180800	133100	112100	115800	293400
CAL YR 1973	TOTAL	831211	MEAN	2277	MAX	32500	MIN	237	AC-FT	1649000		
WTR YR 1974	TOTAL	912710	MEAN	2501	MAX	32500	MIN	310	AC-FT	1810000		

COLORADO RIVER BASIN

08159200 Colorado River at Bastrop, Tex.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6100	11000	5350	3000	3600	6150	2950	3770	12200	7250	2120	1990
2	6100	11200	5050	3150	8000	6170	2840	3320	9600	6650	3450	1940
3	6100	10900	3750	3220	14200	6200	2860	3620	7250	6300	2230	1870
4	6400	11600	4570	4050	11900	6240	2820	3670	6950	6100	2890	1940
5	6350	15000	4400	4040	7980	6240	2600	4800	6900	6000	2750	1990
6	6350	16100	4400	4200	6990	6400	2500	4580	6700	5950	2080	1950
7	6350	19900	3800	5620	6850	5450	2300	4600	6500	5500	1770	1900
8	6350	18500	4200	5350	6780	4300	1930	10500	6500	4250	1770	2000
9	6350	16900	4450	2800	6700	4550	1810	8150	15700	3500	1640	1980
10	6350	16900	6300	2820	6790	4500	1710	10000	28500	3500	1620	1980
11	6400	8800	5800	4200	9600	4500	1640	5650	9400	4300	1530	1950
12	6400	7400	4600	4800	10600	4450	1640	6100	7450	4000	1580	1960
13	6350	6750	4420	4350	10600	4480	1770	6400	6800	3600	1590	1850
14	6350	6600	4400	4220	9900	2920	1770	7850	6600	3600	1570	1730
15	6350	6600	4400	4100	7100	2400	1730	6000	6500	3550	1640	1800
16	5350	6700	4300	4100	6300	2050	1690	5700	6600	3850	2180	1870
17	3780	6650	4200	4150	6400	2000	1680	5650	6200	3600	2010	1510
18	3250	6450	4200	4100	6400	2250	2040	5660	5800	3550	1980	1300
19	2900	6250	4200	3550	6300	2750	2760	6000	5900	2900	1950	1340
20	3150	6400	4090	4000	6150	2300	2800	6500	5800	2380	2040	1820
21	3500	6400	3290	3400	6150	1950	3010	6050	5500	2380	1830	1560
22	4040	6400	1690	3600	6300	1950	3330	5900	6000	2390	1920	1210
23	4200	21200	1260	3700	6300	1420	3510	33000	5800	2150	1900	708
24	4470	45000	1160	3500	6300	1480	3510	43500	5780	2300	1860	800
25	4550	12000	1100	3600	6100	2650	3390	16600	6200	2080	1900	1080
26	4510	7750	1100	2570	6100	2930	3370	19800	6950	1960	1890	1040
27	4300	7200	1100	2150	6150	2870	3600	20700	8600	2190	1870	1110
28	4000	5600	1090	1260	5950	3600	6800	20000	8250	2200	2060	1120
29	4250	6100	1080	3150	---	3350	7750	14000	7310	2120	2100	1100
30	5200	5600	1090	3450	---	3670	5000	12900	7000	2000	1940	1220
31	10000	---	1860	3600	---	3520	---	11900	---	2150	1970	---
TOTAL	166100	339850	106700	113800	208490	115690	87110	323070	241240	114250	61630	47618
MEAN	5358	11330	3442	3671	7446	3732	2904	10420	8041	3685	1988	1587
MAX	10000	45000	6300	5620	14200	6400	7750	43500	28500	7250	3450	2000
MIN	2900	5600	1080	1260	3600	1420	1640	3320	5500	1960	1530	708
AC-FT	329500	674100	211600	225700	413500	229500	172800	640800	478500	226600	122200	94450
CAL YR 1974	TOTAL	1212855	MEAN	3323	MAX	45000	MIN	310	AC-FT	2406000		
WTR YR 1975	TOTAL	1925548	MEAN	5275	MAX	45000	MIN	708	AC-FT	3819000		

08159200 Colorado River at Bastrop, Tex.--Continued

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1170	324	274	231	218	180	1430	2000	3440	2500	3160	2410
2	1180	296	255	225	212	194	1370	2710	10400	2400	3640	2340
3	1170	298	247	222	208	331	1730	2710	2830	2400	3630	3140
4	1200	366	247	218	207	210	1960	2700	2260	2470	3580	2440
5	1140	396	254	216	200	385	2530	2640	2720	3980	2290	2360
6	1170	364	267	224	193	944	2310	3490	2700	4480	2040	2350
7	1170	374	260	222	188	992	1010	6550	2490	3940	2080	2320
8	1180	304	257	1210	193	1860	1100	9440	2640	3380	2330	2390
9	1170	280	244	3140	193	1150	1490	2210	2590	2750	2170	2310
10	1320	280	244	1800	195	516	721	1550	2580	3580	2410	2290
11	2030	2100	299	604	195	317	479	2100	2630	3820	2300	2290
12	1480	3480	466	379	198	250	388	2180	2560	3640	2510	2300
13	808	2140	267	327	199	387	1020	3900	2540	4220	2430	2340
14	431	636	204	277	185	245	1610	3230	2520	5350	2370	2320
15	460	441	182	261	186	236	2050	1880	2560	5900	2330	2370
16	531	374	258	248	188	385	2310	1250	2700	6550	2280	2290
17	328	342	712	237	190	277	1810	1060	2650	6340	2360	2280
18	294	326	417	237	194	214	6040	1620	2630	6070	2380	2330
19	290	319	1340	246	327	722	22100	1740	2570	5570	2330	2410
20	266	315	1110	279	211	1490	5760	1880	2510	5520	2320	2350
21	262	297	436	296	196	1220	4920	3640	2500	5710	2340	2470
22	257	253	289	276	230	1350	2070	2610	2510	5700	2240	2310
23	302	243	251	283	225	1420	1740	2370	2560	5620	2330	2420
24	353	243	259	284	497	1210	2730	2290	2520	5560	2390	2330
25	360	257	582	273	273	1300	3610	2440	2540	5510	2350	2340
26	1520	247	689	420	221	1270	3020	6480	3010	5700	2370	2290
27	841	246	346	583	211	1340	2880	7020	2850	4640	2380	2360
28	473	248	282	711	247	1420	2820	1970	2740	3820	2300	2400
29	408	261	252	433	218	1280	5290	1290	2660	3790	2340	2500
30	682	274	243	317	---	1460	4190	1910	2540	3840	2460	2460
31	372	---	236	234	---	1720	---	1840	---	3780	2530	---
TOTAL	24608	16324	11669	14913	6398	26275	94488	90700	86990	138590	76970	71550
MEAN	794	544	376	481	221	848	3150	2926	2900	4471	2483	2385
MAX	2030	3480	1340	3140	497	1860	22100	9440	10400	6550	3640	3140
MIN	257	243	182	216	185	180	388	1060	2260	2400	2040	2280
AC-FT	48810	32380	23150	29580	12690	52120	187400	179900	172500	274900	152700	141900
CAL YR 1975	TOTAL	1365499	MEAN	3741	MAX	43500	MIN	182	AC-FT	2708000		
WTR YR 1976	TOTAL	659475	MEAN	1802	MAX	22100	MIN	180	AC-FT	1308000		

COLORADO RIVER BASIN

08159200 Colorado River at Bastrop, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- HOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	DIS- SOLVED OXYGEN 5 DAY (MG/L)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)
OCT 21...	1500	676	7.6	22.5	19.4	118	.8	289	54
DEC 1...	1140	699	7.4	14.5	10.0	97	1.3	289	57
FEB 19...	1220	700	8.4	19.0	10.7	114	1.2	260	49
APR 13...	1115	558	7.3	23.5	6.8	79	.9	210	42
JUN 14...	1200	550	7.9	26.0	7.0	88	.5	210	36
AUG 1...	1058	547	7.8	29.0	7.0	92	.0	200	37

DATE	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM CHL- ORIDE RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
OCT 21...	76	22	36	.4	3.8	276	0	42	52
DEC 1...	75	22	41	1.1	4.4	269	0	50	56
FEB 19...	90	22	44	1.2	4.3	246	6	50	60
APR 13...	54	15	30	.9	4.1	204	0	45	44
JUN 14...	53	20	27	.8	3.1	216	0	35	46
AUG 1...	47	21	29	.9	3.4	204	0	33	52

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED (SUM OF CONSTITU- ENTS) (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)
OCT 21...	--	11	379	1.4	.01	.05	.39	.71
DEC 1...	.5	3.5	345	2.5	.13	.17	.53	.99
FEB 19...	.7	5.4	342	.50	.02	.02	.56	.99
APR 13...	.3	11	3.7	1.4	.06	.05	.51	.49
JUN 14...	.4	10	301	.53	.01	.02	.41	.16
AUG 1...	.3	3.2	245	.31	.01	.02	.18	.09

08160800 Redgate Creek near Columbus, Tex.

LOCATION.--Lat 29°47'56", long 96°31'55", Colorado County, on left bank 68 ft (21 m) downstream from bridge on Farm Road 109, 1.8 miles (2.9 km) upstream from Cummins Creek, and 7.0 miles (11.3 km) north of Columbus.

DRAINAGE AREA.--17.3 mi² (44.8 km²).

PERIOD OF RECORD.--April 1962 to current year.

GAGE (revised).--Water-stage recorder. Datum of gage is 200.82 ft (61.210 m) above mean sea level. Prior to Oct. 1, 1975, at datum 10.00 ft (3.048 m) higher.

AVERAGE DISCHARGE.--14 years, 5.77 ft³/s (0.163 m³/s), 4.53 in/yr (115 mm/yr), 4,180 acre-ft/yr (5.15 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 1,490 ft³/s (42.2 m³/s) June 1 (gage height, 18.28 ft or 5.572 m); minimum, 0.18 ft³/s (0.005 m³/s) Sept. 10-13.

Period of record: Maximum discharge, 4,200 ft³/s (119 m³/s) Oct. 23, 1970 (gage height, 24.60 ft or 7.498 m, revised), from rating curve extended above 2,170 ft³/s (61.5 m³/s) on basis of slope-area measurement of peak flow of Jan. 22, 1965; no flow for many days.

Maximum stage since at least 1860, about 33.4 ft (10.18 m), revised, in late June or early July 1940, from information by Texas Highway Department and local resident.

REMARKS.--Records fair. No known diversion above station.

REVISIONS.--WSP 2122: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.52	.87	.82	.87	.77	.73	.69	2.5	277	1.4	.44	.34
2	.45	.89	.82	.89	.77	.73	.69	1.9	19	1.4	.42	.34
3	.44	1.3	.82	.79	.77	.73	.73	1.6	8.3	1.7	.34	.50
4	.44	.90	.82	.73	.77	.77	1.3	1.3	5.6	2.2	.34	.44
5	.44	.85	.82	.75	.81	.82	4.0	1.3	4.5	2.5	.34	.31
6	.44	.77	.82	.79	.81	1.4	2.2	1.3	3.9	2.5	.34	.30
7	.44	.83	.82	.81	.77	4.2	1.2	.48	3.7	2.5	.33	.24
8	.44	.87	.82	.73	.77	1.4	1.4	4.6	3.4	2.5	.30	.20
9	.44	.87	.82	.79	.80	1.7	.98	1.9	3.0	10	.34	.20
10	.44	.78	.77	.82	.79	1.0	.87	1.5	2.9	2.9	.33	.20
11	.44	.73	.77	.82	.77	.93	.87	1.3	2.7	2.1	.29	.18
12	.43	.69	.82	.82	.77	.92	.82	1.1	2.7	1.9	.25	.18
13	.40	.65	.82	.88	.79	.83	.82	4.5	2.5	1.7	.25	.28
14	.40	.73	.82	.76	.82	.87	.82	3.3	2.2	2.9	.27	.77
15	.41	.77	1.1	.73	.82	.91	.82	1.8	2.5	33	.28	.37
16	.44	.81	1.2	.79	.82	.85	4.4	1.4	3.7	8.4	.42	.30
17	.42	.86	1.0	.82	.85	.73	2.5	1.2	2.4	2.0	.40	.25
18	.36	3.1	.81	.82	.84	.75	2.6	1.1	2.3	1.2	.37	.31
19	.34	1.3	.77	.82	.77	.82	2.4	1.0	3.2	.81	.33	.52
20	.36	1.4	.83	3.1	.77	.87	12	1.2	2.5	.69	.32	1.3
21	.37	.86	.87	1.1	1.4	.77	1.8	1.3	2.0	.69	.27	.73
22	.40	.82	.87	.88	.82	.76	1.2	1.1	2.0	.68	.23	.38
23	.46	.82	.87	.87	.73	.77	1.1	.90	2.0	.64	.23	.34
24	.45	.82	13	.87	.77	.79	2.6	.85	1.8	3.6	.23	.34
25	6.8	.82	2.5	1.1	.77	.87	3.9	.82	5.2	1.6	.23	.34
26	2.8	.91	1.0	.73	.77	.81	1.2	1.9	2.3	.63	.23	.69
27	1.1	.87	.95	.72	.77	.70	.97	1.0	2.0	.54	.22	2.7
28	.98	.87	.87	.75	.77	.69	.93	.80	1.7	.54	.31	3.2
29	.91	.93	.87	.74	.77	.93	6.4	.73	1.6	.53	.60	1.0
30	.87	2.0	.87	.76	---	.82	4.1	.73	1.6	.50	.39	.72
31	.87	---	.87	.77	---	.73	---	.73	---	.49	.47	---
TOTAL	24.50	29.69	40.63	27.62	23.42	43.20	163.51	135.16	380.2	94.74	10.11	17.97
MEAN	.79	.99	1.31	.89	.81	1.39	5.45	4.36	12.7	3.06	.33	.60
MAX	6.8	3.1	13	3.1	1.4	14	64	48	277	33	.60	3.2
MIN	.34	.65	.77	.72	.73	.69	.69	.73	1.6	.49	.22	.18
CFSM	.05	.06	.08	.05	.05	.08	.32	.25	.73	.18	.02	.03
IN.	.05	.06	.09	.06	.05	.09	.35	.29	.82	.20	.02	.04
AC-FT	49	59	81	55	46	86	324	268	754	188	20	36
CAL YR 1975 TOTAL	2844.40			MEAN 7.79	MAX 767	MIN .34	CFSM .45	IN 6.12	AC-FT 5640			
WTR YR 1976 TOTAL	990.75			MEAN 2.71	MAX 277	MIN .18	CFSM .16	IN 2.13	AC-FT 1970			

PEAK DISCHARGE (BASE, 600 FT³/S).--June 1 (0230) 1,490 ft³/s (18.28 ft).

COLORADO RIVER BASIN

08161000 Colorado River at Columbus, Tex.

LOCATION.--Lat 29°42'22", long 96°32'12", Colorado County, near right bank at downstream side of pier of bridge on U.S. Highway 90 at eastern edge of Columbus, 340 ft (104 m) downstream from Texas and New Orleans Railroad Co. bridge, 2.6 miles (4.2 km) downstream from Cummins Creek, and at mile 135.1 (217.4 km).

DRAINAGE AREA.--41,070 mi² (106,370 km²), approximately, of which 12,880 mi² (33,360 km²) is probably noncontributing; 41,170 mi² (106,630 km²), approximately, at site "near Eagle Lake".

PERIOD OF RECORD.--Discharge: January 1903 to December 1911 (gage heights only), May 1916 to current year. Discharge records for 1902-11, published in WSP 84, 99, 132, 174, 210, 288, and 308, have been found to be unreliable and should not be used. Records collected at site 23 miles (37 km) downstream October 1930 to May 1939, published as "near Eagle Lake". Gage-height records collected in this vicinity since 1903 are contained in reports of the National Weather Service.

Water quality: Chemical analyses: October 1967 to September 1971. Chemical and biochemical analyses: February 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 155.52 ft (47.402 m) above mean sea level. Prior to May 1, 1919, various nonrecording gages at sites in the immediate vicinity at datum 3.00 ft (0.914 m) lower. May 1, 1919, to Nov. 23, 1930, water-stage recorder at site about 300 ft (91 m) downstream at datum 3.00 ft (0.914 m) lower. Sept. 17, 1930, to June 12, 1939 (Oct. 1, 1930, to May 31, 1939, used herein), water-stage recorder at site 23 miles (37 km) downstream at different datum. May 17 to Nov. 14, 1939, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--20 years (1916-36) unregulated, 3,809 ft³/s (107.9 m³/s), 2,760,000 acre-ft/yr (3.40 km³/yr); 40 years (1936-76) regulated, 2,975 ft³/s (84.25 m³/s), 2,155,000 acre-ft/yr (2.66 km³/yr).

EXTREMES.--Current year: Maximum discharge, 23,800 ft³/s (674 m³/s) Apr. 20 (gage height, 16.68 ft or 5.084 m); minimum daily, 246 ft³/s (6.97 m³/s) Mar. 5.

Period of record: Maximum discharge, 190,000 ft³/s (5,380 m³/s) June 18, 1935 (gage height, 38.5 ft or 11.73 m, present site and datum), computed on basis of records for station near Eagle Lake; minimum, 93 ft³/s (2.63 m³/s) Sept. 1, 1918.

Maximum stage since at least 1852, 41.6 ft (12.68 m), present datum, in July 1869 and Dec. 6, 1913, from information by local resident. River divided each time and left Columbus on an island.

REMARKS.--Discharge records good. Many diversions above station for irrigation and municipal supply. At times some regulation of low flow is achieved by releases from Lake Travis (station 08154500) for generation of electric power and (or) to fulfill downstream water contracts. Flow is also affected at times by discharge from flood-detention pools of 20 floodwater-retarding structures with a combined detention capacity of 25,570 acre-ft (31.5 hm³). These structures control runoff from 73.1 mi² (189.3 km²) in the Cummins Creek watershed.

REVISIONS (WATER YEARS).--WSP 1342: Drainage area. WSP 1562: 1920-21(M), 1922. See also PERIOD OF RECORD.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1200	734	456	501	542	296	1090	7690	8890	2450	3840	2520
2	1140	694	454	497	492	319	1420	3550	9900	2340	3550	2520
3	1120	661	462	480	455	331	1160	2670	11000	2300	3420	2450
4	1120	663	463	470	435	279	1200	2910	6030	2300	3690	2780
5	1120	661	457	464	435	246	3430	2820	3330	2330	3620	2760
6	1140	631	456	467	428	387	8960	2710	2850	2930	3280	2450
7	1110	643	502	460	419	436	6430	5450	2970	4120	2170	2340
8	1120	621	492	445	412	1240	3260	19100	2810	3840	2150	2340
9	1110	621	491	446	406	1650	3820	17300	2690	3700	2240	2370
10	1120	596	472	1170	410	2180	3060	8810	2700	2720	2270	2340
11	1110	569	463	2250	414	1250	1820	3890	2660	3170	2320	2280
12	1330	548	453	1240	418	846	1120	2900	2640	3490	2350	2280
13	1800	1930	453	714	413	668	864	4060	2620	3440	2440	2260
14	1320	2840	503	566	396	578	754	5330	2550	3520	2440	2390
15	926	1480	527	508	388	547	924	6120	2520	4620	2380	2390
16	734	782	489	476	370	529	4320	3520	2550	5810	2360	2370
17	686	642	486	448	368	457	6370	2280	2600	5930	2300	2340
18	699	604	438	433	347	437	4690	1640	2670	6060	2330	2360
19	643	580	490	428	319	495	8300	1370	2590	5850	2340	2330
20	606	567	604	465	320	439	19900	1810	2570	5470	2400	2520
21	589	540	830	466	346	432	16300	2040	2500	5270	2370	2730
22	575	513	848	461	423	1040	8840	3580	2410	5410	2300	2720
23	567	501	657	457	374	983	4390	4820	2390	5410	2270	2460
24	566	487	576	454	318	1090	2680	2870	2440	5470	2270	2440
25	612	467	557	450	294	1170	2890	2500	2410	5520	2350	2400
26	985	462	526	453	329	1030	3750	2530	2460	5430	2330	2420
27	791	458	621	470	470	1060	3770	4880	2780	5410	2350	2440
28	1310	466	697	554	382	1050	3190	11000	2690	5290	2370	2610
29	974	464	599	554	315	1090	4820	5390	2760	4130	2440	2670
30	765	477	535	637	---	1090	8120	2390	2610	3880	2360	2510
31	714	---	510	616	---	1020	---	1710	---	3860	2360	---
TOTAL	29602	21902	16515	18651	11444	24665	141642	147640	104590	131470	79660	73790
MEAN	955	730	533	602	395	796	4721	4827	3486	4241	2570	2460
MAX	1800	2840	503	2250	542	2180	19900	19100	11000	6060	3840	2780
MIN	566	458	438	428	294	246	754	1370	2390	2300	2150	2260
AC-FT	58720	43440	32760	36990	22700	48920	260900	276800	207500	260800	158000	146400
CAL YR 1975 TOTAL	1638453	MEAN	4489	MAX	56300	MIN	438	AC-FT	3250000			
WTN YR 1976 TOTAL	803571	MEAN	2196	MAX	19900	MIN	246	AC-FT	1594000			

08161000 Colorado River at Columbus, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS-CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)	PER-CENT SATURATION	HIO-CHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)
OCT 27...	--	793	--	--	--	--	--	--	--	--
NOV 17...	1100	595	594	7.1	19.0	9.0	96	.5	240	45
DEC 09...	--	495	--	--	--	--	--	--	--	--
JAN 19...	1100	370	680	7.1	14.0	10.8	104	1.6	260	43
MAR 03...	--	330	--	--	--	--	--	--	--	--
16...	1000	455	629	7.2	13.0	9.0	85	2.1	230	55
APR 13...	--	894	--	--	--	--	--	--	--	--
MAY 04...	0930	2960	510	7.1	22.5	7.9	90	1.3	190	37
26...	--	2480	--	--	--	--	--	--	--	--
JUL 09...	--	3790	--	--	--	--	--	--	--	--
13...	1130	3450	560	7.7	26.0	7.8	98	.6	190	34
AUG 18...	--	2490	--	--	--	--	--	--	--	--
SEP 27...	1030	2250	530	7.1	25.5	7.6	95	.8	200	35

DATE	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM AD-SURP-TION RATIO	DIS-SOLVED POTAS-SIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)
OCT 27...	--	--	--	--	--	--	--	--	--	--
NOV 17...	63	19	29	.8	3.4	232	0	36	49	.5
DEC 09...	--	--	--	--	--	--	--	--	--	--
JAN 19...	73	20	32	.9	3.3	270	0	44	51	.3
MAR 03...	--	--	--	--	--	--	--	--	--	--
16...	65	17	33	.9	4.4	216	0	55	50	.4
APR 13...	--	--	--	--	--	--	--	--	--	--
MAY 04...	52	14	23	.7	3.7	183	0	39	37	.4
26...	--	--	--	--	--	--	--	--	--	--
JUL 09...	--	--	--	--	--	--	--	--	--	--
13...	46	19	29	.9	3.4	194	0	36	53	.3
AUG 18...	--	--	--	--	--	--	--	--	--	--
SEP 27...	46	21	28	.9	3.3	203	0	29	47	.3

DATE	DIS-SOLVED SILICA (SiO2) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL ORGANIC NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TRITIUM IN WATER MOLE-CULES (UNITS)	TRITIUM IN WATER MOLE-CULES (COUNT, ERROR)
OCT 27...	--	--	--	--	--	--	--	16.9	1.4
NOV 17...	13	327	.62	.00	.03	.25	.16	--	--
DEC 09...	--	--	--	--	--	--	--	16.9	1.3
JAN 19...	5.9	363	.16	.00	.02	.73	.14	--	--
MAR 03...	--	--	--	--	--	--	--	18.6	1.7
16...	14	345	.22	.02	.34	.52	.32	--	--
APR 13...	--	--	--	--	--	--	--	22.4	1.8
MAY 04...	12	271	.66	.01	.01	.49	.18	--	--
26...	--	--	--	--	--	--	--	18.6	1.6
JUL 09...	--	--	--	--	--	--	--	19.0	1.7
13...	9.8	292	.21	.01	.02	.44	.14	--	--
AUG 18...	--	--	--	--	--	--	--	21.6	1.8
SEP 27...	6.4	281	.12	.00	.00	.15	.12	--	--

COLORADO RIVER BASIN

08162000 Colorado River at Wharton, Tex.
(National stream-quality accounting and radiochemical networks)

LOCATION.--Lat 29°18'32", long 96°06'13", Wharton County, near left bank at downstream side of downstream bridge on U.S. Highway 59 in Wharton, 1,100 ft (335 m) downstream from Texas and New Orleans Railroad Co. bridge, 12 miles (19 km) upstream from Jones Creek, and at mile 66.6 (107.2 km).

DRAINAGE AREA.--41,380 mi² (107,170 km²), approximately, of which 12,880 mi² (33,360 km²) is probably noncontributing.

PERIOD OF RECORD.--Discharge: July 1916 to August 1918 (intermittent periods), March 1919 to September 1925, July and August 1938 (flood discharge measurements only), October 1938 to current year. June to November 1901 and May to September 1902, daily records published in U.S. Department of Agriculture, Office of Experiment Stations, Bulletin Nos. 119 and 133. Gage-height records collected in this vicinity since 1935 are contained in reports of the National Weather Service.

Water quality: Chemical analyses: April 1944 to current year. Chemical and biochemical analyses: January 1968 to current year.

Pesticide analyses: February 1968 to current year. Water temperatures: October 1945 to September 1948, March 1950 to current year.

GAGE (revised).--Water-stage recorder. Datum of gage is 62.42 ft (19.026 m) above mean sea level. Prior to Oct. 1, 1938; various types of recording and nonrecording gages 800 ft (244 m) upstream at different datum. Oct. 1, 1938, to June 1, 1966, nonrecording gage 100 ft (30 m) upstream at datum 3.00 ft (0.914 m) higher. June 1, 1966, to Sept. 30, 1975, water-stage recorder at present site at datum 3.00 ft (0.914 m) higher.

AVERAGE DISCHARGE.--5 years (1919-21, 1922-25) unregulated, 3,680 ft³/s (104.2 m³/s), 2,666,000 acre-ft/yr (3.29 km³/yr); 38 years (1938-76), regulated, 2,744 ft³/s (77.71 m³/s), 1,988,000 acre-ft/yr (2.45 km³/yr).

EXTREMES.--Discharge: Current year: Maximum discharge, 21,000 ft³/s (595 m³/s) Apr. 21 (gage height, 18.14 ft or 5.529 m); minimum daily, 342 ft³/s (9.69 m³/s) Feb. 20.

Period of record: Maximum discharge observed, 100,000 ft³/s (2,830 m³/s) July 3, 1940 (gage height, 38.99 ft or 11.884 m); no flow Aug. 6, 1925 (result of pumping).

Historic: Maximum stage since at least 1869, 41.9 ft (12.77 m) Dec. 8, 1913, present datum, from information by local residents; below Wharton floodwater combined with floodwater of Brazos River. Flood of about July 12, 1869, reached about same height. Flood of June 20, 1935, reached a stage of 41.2 ft (12.56 m), present datum, furnished by National Weather Service (discharge, 159,000 ft³/s or 4,500 m³/s, from rating curve defined by current-meter measurements below 145,000 ft³/s or 4,110 m³/s). Flood of July 30, 1938, reached a stage of 40.4 ft (12.31 m), present datum, observed by Geological Survey engineers (discharge, 145,000 ft³/s or 4,110 m³/s).

Water quality: Current year: Maximum daily specific conductance, 729 micromhos Mar. 4; minimum daily, 279 micromhos May 9. Maximum water temperatures, 31.0°C Aug. 15; minimum, 4.0°C Jan. 9.

Period of record: Maximum daily specific conductance, 904 micromhos Oct. 29, 1963; minimum daily, 146 micromhos Sept. 27, 1957.

Maximum water temperatures, 35.0°C July 26, 1954; minimum, 2.0°C Dec. 23, 1963, Jan. 14, 1964.

REMARKS.--Discharge records fair. Many diversions above station for irrigation, municipal supply, and oilfield operation. For statement regarding upstream regulation and regulation by Soil Conservation Service floodwater-retarding structures, see station 08161000.

REVISIONS (WATER YEARS).--WSP 878: 1938(M). WSP 1342: Drainage area.

DISCHARGE* IN CUBIC FEET PER SECOND* WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	992	817	526	580	652	394	937	7310	2060	1950	3680	1560
2	686	778	527	537	599	369	979	6360	9890	1830	3580	1630
3	820	408	515	537	529	359	1190	3750	10600	1670	3300	1780
4	913	739	510	524	482	366	1130	2510	10100	1710	2940	1790
5	905	646	510	510	449	370	1150	2440	5850	1790	3010	1940
6	851	664	507	497	432	363	2830	2320	3530	1920	2810	2130
7	823	676	503	483	422	354	7650	2240	2970	2330	2530	1830
8	932	644	509	488	407	436	5660	6590	2780	3470	1750	1840
9	938	654	524	484	398	716	3130	16600	2480	3650	1500	1800
10	939	627	522	479	388	1370	3410	14900	2210	3890	1480	1780
11	1000	621	513	581	377	1970	2910	7260	2170	3360	1580	1770
12	1040	590	494	2060	373	1480	1870	3650	2090	3490	1480	1690
13	1190	567	483	1690	369	1170	2890	2030	4020	1610	1610	1670
14	1630	1070	473	1040	362	810	828	3640	1990	3970	1580	1660
15	1470	2580	469	794	356	663	744	4740	1880	4050	1680	1810
16	1220	1910	536	648	354	580	660	5160	1990	5180	1650	1900
17	946	1200	538	578	354	546	3060	3320	1880	6080	1780	1810
18	816	917	508	531	352	518	5750	2310	1880	6130	1960	1710
19	781	820	490	494	347	485	5770	1670	2040	6150	1870	1720
20	770	772	458	478	342	477	8940	1170	2080	5900	1880	1780
21	699	704	534	474	344	492	19200	1210	1990	5520	1940	2110
22	658	668	648	469	355	438	14000	1600	1940	5280	1870	2440
23	630	633	974	461	349	608	8300	2550	1850	5370	1780	2420
24	610	597	1330	457	389	916	4690	3650	1820	5340	1670	2260
25	622	581	1410	473	371	970	3180	2300	1800	5460	1600	2150
26	700	558	876	464	347	1080	3010	2000	1830	5560	1630	2180
27	591	546	687	445	347	979	3500	2040	1840	5510	1620	2390
28	1020	532	632	529	372	955	3540	4000	2020	5380	1600	2270
29	1120	528	695	594	429	962	3160	8440	2080	5280	1550	2480
30	1260	528	734	544	---	900	4610	4600	2060	4260	1600	2650
31	960	---	654	567	---	938	---	2280	---	3870	1510	---
TOTAL	24331	24026	19289	19540	11647	22924	126958	136000	91710	129370	62020	58950
MEAN	914	801	622	630	402	739	4232	4387	3057	4173	2001	1965
MAX	1630	2580	1410	2060	652	1970	19200	16600	10600	6150	3680	2650
MIN	592	528	458	445	342	354	660	1170	1800	1670	1480	1560
AC-FT	56190	47660	38260	38760	23100	45470	251800	269800	181900	256600	123000	116900
CAL YR 1975 TOTAL		1636667		MEAN 4402	MAX 50300	MIN 458	AC-FT 3187000					
WTR YR 1976 TOTAL		730765		MEAN 1997	MAX 19200	MIN 342	AC-FT 1449000					

COLORADO RIVER BASIN

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08162000 Colorado River at Wharton, Tex.--Continued

WATER QUALITY DATA. WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)
OCT.										
14...	1345	1750	601	7.5	26.5	10	40	8.2	100	.7
NOV.										
17...	1600	1100	--	--	--	--	--	--	--	--
18...	0745	850	592	7.4	18.0	10	35	8.5	89	.3
DEC.										
08...	1230	510	685	7.6	16.5	20	5	10.5	107	.6
JAN.										
20...	0730	488	660	7.1	12.0	10	10	9.8	91	1.0
FEB.										
18...	1300	134	711	6.8	21.5	10	15	8.9	100	1.1
MAR.										
17...	0700	550	609	7.0	12.5	30	25	8.9	83	1.5
APR.										
06...	1245	2130	606	6.8	21.0	10	120	8.1	90	1.6
MAY										
05...	0800	2400	439	7.1	22.0	40	180	7.6	86	.8
JUNE										
02...	1300	11000	248	6.9	24.0	120	350	6.1	72	3.5
JULY										
14...	0815	4000	549	7.6	27.0	20	90	7.3	92	.6
AUG.										
24...	1330	1650	559	7.5	30.0	20	30	8.9	119	1.2
SEP.										
28...	0745	2270	518	7.4	25.0	30	40	7.4	91	.6
DATE	IMME- DIATE COLI- FORM (COL. PER 100 ML)	FECAL COLI- FORM (COL. PER 100 ML)	STREP- TOCOCCI (COL- ONIES PER 100 ML)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)
OCT.										
14...	7000	52	42	230	41	60	19	30	.9	3.4
NOV.										
17...	--	--	--	--	--	--	--	--	--	--
18...	2800	68	30	250	45	67	19	27	.8	3.1
DEC.										
08...	420	1	10	270	35	74	20	35	.9	3.5
JAN.										
20...	580	24	18	260	41	71	20	32	.9	3.3
FEB.										
18...	40	10	6	270	32	76	20	37	1.0	3.6
MAR.										
17...	440	35	32	230	50	64	16	32	.9	4.8
APR.										
06...	3000	230	130	210	51	53	19	33	1.0	3.8
MAY										
05...	4100	250	66	160	25	47	10	20	.7	3.8
JUNE										
02...	65000	4200	5100	86	4	28	4.0	11	.5	3.1
JULY										
14...	23000	190	210	190	34	47	18	29	.9	3.5
AUG.										
24...	680	36	12	210	40	49	21	29	.9	3.5
SEP.										
28...	3000	--	--	200	31	45	20	27	.8	3.3

COLORADO RIVER BASIN

08162000 Colorado River at Wharton, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	RICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L)	TOTAL NON- FILT- RABLE RESIDUE (MG/L)	VOL. NON- FILT- RABLE RESIDUE (MG/L)
OCT. 14...	230	0	35	48	--	5.9	345	315	64	13
NOV. 17...	--	--	--	--	--	--	--	--	--	--
18...	245	0	34	48	.5	12	342	331	69	7
DEC. 08...	283	0	41	51	.3	6.4	387	371	11	1
JAN. 20...	267	0	38	50	.3	7.2	366	354	21	1
FEB. 18...	293	0	43	52	.4	6.2	386	383	20	4
MAR. 17...	215	0	49	49	.4	14	344	336	54	4
APR. 06...	195	0	43	55	.6	11	296	315	350	290
MAY 05...	163	0	35	30	.5	12	250	239	180	104
JUNE 02...	101	0	13	15	.3	8.1	140	132	1370	192
JULY 14...	192	0	35	51	.4	10	284	289	266	59
AUG. 24...	206	0	35	51	.3	7.2	286	298	81	27
SEP. 28...	200	0	28	46	.3	6.7	295	276	110	43

DATE	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	SUS- PEN- DED SEDI- MENT (MG/L)	SUS- PEN- DED SEDI- MENT (T/DAY)	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM
OCT. 14...	.09	.01	.02	.50	.10	2.6	26	123	100
NOV. 17...	--	--	--	--	--	--	74	220	96
18...	.37	.01	.00	.28	.20	2.0	--	--	--
DEC. 08...	.11	.01	.00	.31	.05	2.2	6	8.3	60
JAN. 20...	.10	.00	.03	.46	.14	2.0	8	11	71
FEB. 18...	.25	.01	.04	.61	.11	1.8	15	5.4	71
MAR. 17...	.25	.02	.57	.53	.40	6.8	36	53	97
APR. 06...	.69	.01	.02	.71	.35	7.4	131	753	99
MAY 05...	.64	.01	.02	.88	.25	5.8	227	1470	99
JUNE 02...	.33	.02	.08	1.9	.67	12	--	--	--
JULY 14...	.56	.01	.04	.53	.20	4.4	176	1900	98
AUG. 24...	.09	.00	.02	.54	.09	7.1	31	138	98
SEP. 28...	.21	.00	.01	.42	.14	4.7	--	--	--

08162000 Colorado River at Wharton, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	DIS-SOLVED ALUMINUM (AL) (UG/L)	TOTAL ARSENIC (AS) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	TOTAL CADMIUM (CD) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	TOTAL CHROMIUM (CR) (UG/L)	DIS-SOLVED CHROMIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)
JAN. 20...	0730	10	2	2	100	0	0	10	0	0
MAR. 17...	0700	10	5	2	100	0	0	20	0	6
JULY 14...	0815	20	--	3	140	2	0	40	0	4
SEP. 28...	0745	70	4	3	90	2	0	10	1	2

DATE	DIS-SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	TOTAL MANGANESE (MN) (UG/L)
JAN. 20...	0	0	0	360	0	3	0	10	40
MAR. 17...	4	5	1	1400	30	6	0	10	70
JULY 14...	0	--	3	7700	10	--	0	10	180
SEP. 28...	2	4	2	2800	0	5	2	10	120

DATE	DIS-SOLVED MANGANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	TOTAL SELENIUM (SE) (UG/L)	DIS-SOLVED SELENIUM (SE) (UG/L)	DIS-SOLVED STRONTIUM (SR) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
JAN. 20...	10	.2	.1	6	0	0	600	20	20
MAR. 17...	0	.0	.0	0	0	0	460	20	10
JULY 14...	10	--	.4	3	--	1	430	600	20
SEP. 28...	0	.2	.2	0	0	0	420	40	20

DATE	TIME	DIS-SOLVED GROSS ALPHA AS (UG/L)	SUS-PENDED GROSS ALPHA AS (UG/L)	DIS-SOLVED GROSS BETA AS (PC/L)	SUS-PENDED GROSS BETA AS (PC/L)	DIS-SOLVED GROSS BETA AS SR90 /Y90 (PC/L)	SUS-PENDED GROSS BETA AS SR90 /Y90 (PC/L)	DIS-SOLVED RA-226 (RADON METHOD) (PC/L)	DIS-SOLVED URANIUM (DIRECT FLUOROMETRIC) (PC/L)	TOTAL FILTERABLE RESIDUE (MG/L)
OCT 14...	1345	5.0	4.0	6.0	2.2	4.7	1.8	.12	1.9	320
MAY 05...	0800	<3.4	4.5	7.8	5.2	6.3	4.1	.09	.6	240

COLORADO RIVER BASIN

08162000 Colorado River at Wharton, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL PCB (UG/L)	PCB IN BOTTOM MA-TERIAL (UG/KG)	POLY-CHLORINATED NAPHTHALENES (UG/L)	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MA-TERIAL (UG/KG)	TOTAL CHLORDANE (UG/L)	CHLORDANE IN BOTTOM MA-TERIAL (UG/KG)	TOTAL DDD (UG/L)	DDD IN BOTTOM MA-TERIAL (UG/KG)	TOTAL DDE (UG/L)	DDE IN BOTTOM MA-TERIAL (UG/KG)
NOV 18...	0745	--	--	--	ND	--	ND	--	ND	--	ND	--
JAN 20...	0730	.0	0	--	.03	.0	.0	0	.00	.0	.00	.1
MAR 17...	0700	.0	0	.00	.00	.0	.0	0	.00	.3	.00	.2
MAR 17...	0715	--	--	--	ND	--	ND	--	ND	--	ND	--
MAY 05...	0800	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND
AUG 24...	1330	--	--	--	ND	--	ND	--	ND	--	ND	--
SEP 28...	0745	--	0	--	--	.0	--	0	--	.0	--	.0

DATE	TOTAL DDT (UG/L)	DDT IN BOTTOM MA-TERIAL (UG/KG)	TOTAL DIALAZINON (UG/L)	DIALAZINON IN BOTTOM MA-TERIAL (UG/KG)	TOTAL DIELDRIN (UG/L)	DIELDRIN IN BOTTOM MA-TERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MA-TERIAL (UG/KG)	TOTAL ETHION (UG/L)	ETHION IN BOTTOM MA-TERIAL (UG/KG)	TOTAL HEPTACHLOR (UG/L)	HEPTACHLOR IN BOTTOM MA-TERIAL (UG/KG)
NOV 18...	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--
JAN 20...	.00	.1	.00	--	.00	.0	.00	.0	.00	--	.00	.0
MAR 17...	.00	.5	.01	--	.00	.0	.00	.0	.00	--	.00	.0
MAR 17...	ND	--	.06	--	ND	--	ND	--	ND	--	ND	--
MAY 05...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 24...	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--
SEP 28...	--	.0	--	--	--	.0	--	.0	--	--	--	.0

DATE	TOTAL HEPTACHLOR EPOXIDE (UG/L)	HEPTACHLOR EPOXIDE IN BOTTOM MA-TERIAL (UG/KG)	TOTAL LINDANE (UG/L)	LINDANE IN BOTTOM MA-TERIAL (UG/KG)	TOTAL MALATHION (UG/L)	MALATHION IN BOTTOM MA-TERIAL (UG/KG)	TOTAL METHOXYCHLOR (UG/L)	METHOXYCHLOR IN BOTTOM MA-TERIAL (UG/KG)	TOTAL METHYL PARA-THION (UG/L)	METHYL PARA-THION IN BOTTOM MA-TERIAL (UG/KG)	TOTAL METHYL TRI-THION (UG/L)
NOV 18...	ND	--	ND	--	ND	--	ND	--	ND	--	ND
JAN 20...	.00	.0	.00	.0	.00	--	--	--	.00	--	.00
MAR 17...	.00	.0	.00	.0	.00	--	--	--	.00	--	.00
MAR 17...	ND	--	ND	--	ND	--	ND	--	ND	--	ND
MAY 05...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 24...	ND	--	ND	--	ND	--	ND	--	ND	--	ND
SEP 28...	--	.0	--	.0	--	--	--	--	--	--	--

DATE	TOTAL METHYL TRI-THION IN BOTTOM MA-TERIAL (UG/KG)	TOTAL PARA-THION IN BOTTOM MA-TERIAL (UG/L)	TOTAL TOXAPHENE IN BOTTOM MA-TERIAL (UG/L)	TOTAL TRI-THION IN BOTTOM MA-TERIAL (UG/L)	TOTAL ATRA-ZINE (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
NOV 18...	--	ND	--	ND	--	--	--	--
JAN 20...	--	.00	--	0	0	.00	--	.00
MAR 17...	--	.00	--	0	0	.00	--	.00
MAR 17...	--	ND	--	ND	--	ND	--	ND
MAY 05...	ND	ND	ND	ND	ND	1.4	--	--
AUG 24...	--	ND	--	ND	--	ND	ND	ND
SEP 28...	--	--	--	0	--	--	--	--

08162000 Colorado River at Wharton, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PERIPHYTON

Date	Length of exposure (days)	Biomass (g/m ²)		Chlorophyll a (mg/m ²)	Chlorophyll b (mg/m ²)	Biomass pigment ratio	Sampling method
		Dry weight	Ash weight				
DEC. 08	20	1.8	0.8	1.2	0.0	840	Polyethylene strip
SEP. 28	35	2.5	2.1	.088	.030	--	Polyethylene strip

OCT. 14, 1975	1345 HOURS			DEC. 8, 1975	1230 HOURS		
PHYTOPLANKTON 2,400 CELLS/ML				PHYTOPLANKTON 450 CELLS/ML			
ORGANISM NAME	CELLS/ML	PER_CENT	ORGANISM NAME	CELLS/ML	PER_CENT		
CHRYSOPHYTA			CHRYSOPHYTA				
..BACILLARIOPHYCEAE			..BACILLARIOPHYCEAE				
..CENTRALES			..CENTRALES				
..COSCINODISCACEAE			..COSCINODISCACEAE				
..CYCLOTELLA	27	1	..CYCLOTELLA	43	10		
..PENNIALES			..MELOSIRA	43	10		
..CYMBELLACEAE			..PENNIALES				
..CYMBELLA	27	1	..ACHNANTHACEAE				
..NAVICULACEAE			..COCCONEIS		0		
..GYROSIGMA	27	1	..DIATOMACEAE				
..NAVICULA	440	34	..DIATOMA		0		
..PINNULARIA	27	1	..FRAGILARIACEAE				
..NITZSCHIA			..SYNEDRA	65	14		
..NITZSCHIA	490	37	..GOMPHONEMACEAE				
CYANOPHYTA			..GOMPHONEMA	22	5		
..MYXOPHYCEAE			..NAVICULACEAE				
..CHROOCOCCALES			..GYROSIGMA		0		
..CHROOCOCCACEAE			..NAVICULA	65	14		
..AGMENELLUM	100	4	..NITZSCHIA	220	48		
..OSCILLATORIALES							
..OSCILLATORIA	480	20					

NOV. 18, 1975	0745 HOURS			JAN. 20, 1976	0730 HOURS		
PHYTOPLANKTON 1,900 CELLS/ML				PHYTOPLANKTON 240 CELLS/ML			
ORGANISM NAME	CELLS/ML	PER_CENT	ORGANISM NAME	CELLS/ML	PER_CENT		
CHRYSOPHYTA			CHLOPOPHYTA				
..BACILLARIOPHYCEAE			..CHLOROPHYCEAE				
..CENTRALES			..CHLOROCOCCALES				
..COSCINODISCACEAE			..SCENEDESMACEAE				
..CYCLOTELLA	19	1	..SCENEDESMUS		0		
..PENNIALES			CHRYSOPHYTA				
..ACHNANTHACEAE			..BACILLARIOPHYCEAE				
..COCCONEIS	200	11	..CENTRALES				
..FRAGILARIACEAE			..BIDDULPHIA		0		
..SYNEDRA		0	..COSCINODISCACEAE				
..GOMPHONEMACEAE			..MELOSIRA		0		
..GOMPHONEMA	19	1	..PENNIALES				
..NAVICULACEAE			..ACHNANTHACEAE				
..GYROSIGMA		0	..COCCONEIS	42	18		
..NAVICULA	330	18	..CYMBELLACEAE				
..TROPIDONEIS		0	..AMPHORA		0		
..NITZSCHIA		0	..CYMBELLA		0		
..NITZSCHIA	670	36	..DIATOMACEAE				
..SURIPELLACEAE			..DIATOMA		0		
..SURIPELLA	19	1	..FRAGILARIACEAE				
CYANOPHYTA			..SYNEDRA		0		
..MYXOPHYCEAE			..NAVICULACEAE				
..CHROOCOCCALES			..GYROSIGMA		0		
..CHROOCOCCACEAE			..NAVICULA	140	59		
..AGMENELLUM		0	..NITZSCHIA				
..OSCILLATORIALES			..NITZSCHIA	28	12		
..OSCILLATORIA	190	10	..SURIPELLACEAE				
..LYNGBYA	430	23	..CYMATOPLEURA		0		
			..SURIPELLA	28	12		

08162000 Colorado River at Wharton, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

FEB. 18, 1976 1300 HOURS

PHYTOPLANKTON 530 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...SCENEDESMACEAE		
...SCENEDESMUS	76	14
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINODISCACEAE		
...CYCLOTELLA	38	7
...MELOSIRA		0
..PENNALES		
...ACHNANTHACEAE		
...COCCONEIS		0
...DIATOMACEAE		
...DIATOMA		0
...NAVICULACEAE		
...NAVICULA	190	36
...NITZSCHIA		
...NITZSCHIAEAE	190	36
...SURIPELLACEAE		
...CYMATOPLEURA	38	7
...SURIPELLA		0
CYANOPHYTA		
..MYXOPHYCEAE		
..OSCILLATORIALES		
...NOSTOCACEAE		
...ANABAENA		0
...OSCILLATORIAEAE		
....LYNGBYA		0

MAR. 17, 1976 0700 HOURS

PHYTOPLANKTON 410 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINODISCACEAE		
...MELOSIRA	10	2
..PENNALES		
...ACHNANTHACEAE		
...COCCONEIS	140	33
...CYMBELLACEAE		
...AMPHORA	20	5
...DIATOMACEAE		
...DIATOMA	10	2
...NAVICULACEAE		
...FRUSTULIA	10	2
...GYROSIGMA		0
...NAVICULA	130	31
...NITZSCHIAEAE		
...NITZSCHIA	68	17
...SURIPELLACEAE		
...CYMATOPLEURA	29	7
...SURIPELLA		0

APR. 6, 1976 1245 HOURS

PHYTOPLANKTON 3,800 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..ZYGNEMALES		
...DESMIDIACEAE		
...COSMARITUM		0
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...HIDDIPLHACEAE		
...RIDDULPHIA		0
..PENNALES		
...ACHNANTHACEAE		
...ACHNANTHES	170	5
...COCCONEIS	340	9
...CYMBELLACEAE		
...AMPHORA		0
...DIATOMACEAE		
...DIATOMA	170	5
...FRAGILARIACEAE		
...SYNEDRA		0
...GOMPHONEMACEAE		
...GOMPHONEMA	170	5
...NAVICULACEAE		
...GYROSIGMA	170	5
...NAVICULA	520	14
...NEILIIUM		0
...NITZSCHIAEAE		
...NITZSCHIA	2,100	55
...SURIPELLACEAE		
...CYMATOPLEURA	170	5
...SURIPELLA		0
CYANOPHYTA		
..MYXOPHYCEAE		
..OSCILLATORIALES		
...OSCILLATORIAEAE		
....OSCILLATORIA		0

MAY 5, 1976 0800 HOURS

PHYTOPLANKTON 530 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINODISCACEAE		
...CYCLOTELLA	19	4
..PENNALES		
...ACHNANTHACEAE		
...COCCONEIS	19	4
...CYMBELLACEAE		
...AMPHORA	19	4
...CYMBELLA	19	4
...FRAGILARIACEAE		
...SYNEDRA	38	7
...NAVICULACEAE		
...NAVICULA	19	4
...NITZSCHIAEAE		
...NITZSCHIA	210	39
...SURIPELLACEAE		
...CYMATOPLEURA	19	4
...SURIPELLA	19	4
CYANOPHYTA		
..MYXOPHYCEAE		
..CHROOCOCCALES		
...CHROOCOCCACEAE		
...GOMENELLUM	150	29

08162000 Colorado River at Wharton, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

JUNE 2, 1976 1300 HOURS

PHYTOPLANKTON 2,000 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...SCENEDESMACEAE		
...SCENEDESMUS	390	20
CHRYSTOPHYTA		
..BACILLARIOPHYCEAE		
..PENNALES		
...ACHNANTHACEAE		
...COCONEIS	98	5
...CYMBELLACEAE		
...CYMBELLA	98	5
...RHOPALODIA	98	5
...GOMPHONEMATACEAE		
...GOMPHONEMA	98	5
...NAVICULACEAE		
...CALONEIS	98	5
...NAVICULA	680	35
...NITZSCHIA	390	20

JULY 14, 1976 0815 HOURS

PHYTOPLANKTON 3,000 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...SCENEDESMACEAE		
...SCENEDESMUS		0
...VOLVOCALES		
...CHLAMYDOMONADACEAE		
...CHLAMYDOMONAS	57	2
CHRYSTOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINODISCACEAE		
...CYCLOTELLA	280	9
...MELOSIRA	230	8
..PENNALES		
...NITZSCHIA	450	15
..NITZSCHIA		
CYANOPHYTA		
..MYXOPHYCEAE		
...OSCILLATORIALES		
...OSCILLATORIA		
...OSCILLATORIA	1,900	64
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
...EUGLENALES		
...EUGLENACEAE		
...EUGLENA	57	2

AUG. 24, 1976 1330 HOURS

PHYTOPLANKTON 11,000 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...OCCYSTACEAE		
...KIRCHNERIELLA	54	1
...VOLVOCALES		
...CHLAMYDOMONADACEAE		
...CHLAMYDOMONAS	54	1
CHRYSTOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINODISCACEAE		
...CYCLOTELLA	270	3
...MELOSIRA	320	3
..PENNALES		
...NAVICULACEAE		
...NAVICULA	54	1
...NITZSCHIA		
...NITZSCHIA	5,300	50
...SURIPELLACEAE		
...SURIPELLA	110	1
CYANOPHYTA		
..MYXOPHYCEAE		
...CHROOCOCCALES		
...CHROOCOCCACEAE		
...AGMENELLUM	3,200	30
...OSCILLATORIALES		
...OSCILLATORIA	1,100	10
EUGLENOPHYTA		
..CRYPTOPHYCEAE		
...CRYPTOMONIDALES		
...CRYPTOMONADACEAE		
...CRYPTOMONAS	54	1
..EUGLENOPHYCEAE		
...EUGLENALES		
...EUGLENACEAE		
...LEPOCINCLIS	54	1
...TRACHELOMONAS	54	1

SEP. 28, 1976 0745 HOURS

PHYTOPLANKTON 4,400 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHRYSTOPHYTA		
..BACILLARIOPHYCEAE		
..PENNALES		
...NAVICULACEAE		
...NAVICULA	580	13
...NITZSCHIA		
...NITZSCHIA	3,900	87

COLORADO RIVER BASIN

08162000 Colorado River at Wharton, Tex.--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

MONTH	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA+MG) (MG/L)
OCT. 1975.....	28331	611	330	25000	52	3940	42	3180	230
NOV. 1975.....	24026	618	330	21600	53	3420	42	2720	230
DEC. 1975.....	19289	614	330	17200	52	2730	42	2170	230
JAN. 1976.....	19540	652	350	18500	56	2960	44	2340	250
FEB. 1976.....	11218	689	370	11200	60	1820	47	1420	260
MAR. 1976.....	22924	649	350	21600	56	3400	44	2730	240
APR. 1976.....	126958	387	210	71700	30	10200	26	9010	150
MAY 1976.....	136000	391	210	77600	30	11000	27	9780	150
JUNE 1976.....	91710	444	240	59900	35	8770	30	7490	170
JULY 1976.....	129370	547	300	103000	46	16000	37	13000	210
AUG. 1976.....	62020	562	300	50500	47	7910	38	6390	210
SEPT 1976.....	58950	526	280	45100	44	6930	36	5700	200
TOTAL	730336	**	**	523000	**	79200	**	65900	**
WTD.AVG.	2000.92	492	270	**	40	**	33	**	190

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	598	644	589	651	642	670	614	414	333	572	558	540
2	592	625	598	670	649	723	614	403	379	541	559	543
3	594	671	577	672	667	717	610	393	283	543	558	543
4	597	667	589	675	677	729	606	382	306	561	560	540
5	588	633	584	679	696	722	597	431	326	575	557	533
6	599	639	592	682	684	728	585	495	345	569	560	537
7	601	631	600	686	703	719	529	531	391	560	555	536
8	591	629	612	675	708	698	322	450	454	566	558	533
9	601	627	596	703	692	685	384	279	498	526	568	521
10	602	635	595	706	707	672	406	291	522	486	578	519
11	602	645	599	691	676	650	293	295	540	533	580	538
12	601	635	625	620	706	602	310	301	555	552	586	537
13	601	606	647	630	691	562	355	334	558	549	579	539
14	601	633	625	652	696	575	419	381	565	543	573	541
15	598	662	626	622	684	585	453	403	569	539	565	538
16	590	639	688	626	691	593	505	447	546	546	567	513
17	615	580	662	632	698	606	450	454	568	533	560	534
18	623	581	667	655	682	625	357	430	571	540	546	530
19	630	590	689	657	698	645	333	454	573	546	561	529
20	635	585	647	653	706	646	308	478	569	543	560	528
21	653	597	622	650	695	655	339	499	574	549	566	525
22	659	602	654	663	690	661	313	534	576	549	561	530
23	653	643	630	652	703	671	323	542	579	555	563	501
24	658	561	563	646	706	667	375	556	580	550	564	536
25	652	552	536	626	698	725	390	444	581	553	563	524
26	625	578	588	638	716	712	406	437	579	550	568	533
27	640	569	612	655	708	661	446	493	573	549	566	490
28	614	559	641	652	689	630	488	544	574	552	563	504
29	621	563	646	644	640	626	465	453	570	556	560	499
30	557	568	669	636	---	620	477	335	571	553	560	509
31	652	---	634	690	---	615	---	325	---	561	545	---
MONTH	614	612	619	658	690	658	436	426	507	548	563	527

COLORADO RIVER BASIN

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08162000 Colorado River at Wharton, Tex.--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23.0	22.0	12.0	17.0	12.0	20.0	18.0	20.0	25.0	29.0	30.5	---
2	21.0	23.0	12.0	17.0	12.0	21.0	19.0	22.0	24.0	29.0	29.5	28.0
3	20.0	22.0	14.0	10.0	11.0	22.0	22.0	21.0	24.0	29.0	29.0	28.0
4	20.0	22.0	16.0	10.0	15.0	22.0	22.0	22.0	25.0	29.0	28.0	20.0
5	20.0	21.0	18.0	8.0	18.0	21.0	20.0	22.0	26.0	29.0	29.0	29.0
6	20.0	20.5	20.0	12.0	13.0	17.0	19.0	22.0	28.0	27.0	29.5	30.0
7	24.0	21.0	16.0	10.0	10.0	16.0	20.0	24.0	26.0	27.0	30.0	29.0
8	23.0	22.0	14.0	9.0	12.0	17.0	19.0	22.0	26.0	27.0	30.0	29.0
9	22.0	26.0	13.0	4.0	13.0	12.0	20.0	20.0	26.0	27.0	29.5	29.0
10	25.0	22.0	13.0	10.0	10.0	15.0	21.0	20.0	27.0	26.5	30.0	28.0
11	25.0	19.0	15.0	14.0	18.0	17.0	22.0	21.0	27.0	26.0	29.0	27.0
12	23.0	20.0	17.0	12.0	22.0	19.0	22.0	22.5	27.0	26.5	29.0	28.0
13	25.0	16.0	18.0	14.0	19.0	16.0	22.0	23.0	27.0	26.5	29.0	27.0
14	25.0	---	20.0	10.0	20.0	15.0	22.0	22.0	27.0	27.0	29.0	27.0
15	25.0	17.0	20.0	11.0	20.0	14.0	22.0	21.0	28.0	26.0	31.0	27.0
16	24.0	17.0	13.0	11.0	21.0	14.0	22.0	24.0	28.0	26.0	29.0	27.0
17	25.0	17.0	12.0	12.0	20.0	13.0	23.0	23.0	29.0	26.0	28.0	27.0
18	20.0	19.0	9.0	12.0	18.0	15.0	21.0	23.0	29.0	27.0	28.0	28.0
19	20.0	20.0	8.0	14.0	17.0	18.0	21.0	23.0	29.0	28.0	28.0	27.0
20	20.0	17.0	9.0	13.0	22.0	21.0	22.0	23.0	27.0	27.0	28.0	27.0
21	24.0	14.0	10.0	10.0	15.0	18.0	20.0	23.0	27.0	27.0	28.0	25.0
22	21.0	12.0	10.0	11.0	12.0	17.0	20.0	23.0	28.0	28.0	28.0	24.0
23	22.0	12.0	10.0	12.0	12.0	18.0	22.0	25.0	28.0	27.0	25.0	25.0
24	23.0	11.0	11.0	17.0	13.0	19.0	23.0	26.0	28.0	27.0	---	25.0
25	19.0	11.0	10.0	18.0	15.0	21.0	24.0	21.0	28.0	27.0	30.0	26.0
26	19.0	12.0	10.0	12.0	16.0	24.0	23.0	27.0	29.0	25.0	28.5	22.0
27	19.0	10.0	10.0	7.0	16.0	20.0	25.0	25.0	---	28.0	29.0	26.0
28	20.0	19.0	12.0	5.0	13.0	20.0	24.0	24.0	29.0	28.0	29.0	26.0
29	23.0	20.0	10.0	11.0	---	21.0	23.0	25.0	30.0	28.0	25.0	24.0
30	21.0	18.0	10.0	12.0	---	19.0	21.0	25.0	29.0	28.0	28.0	23.0
31	21.0	---	10.0	15.0	---	16.0	---	26.0	---	29.0	28.0	---
MONTH	22.0	18.0	13.0	11.5	15.5	18.0	21.5	23.0	27.5	27.5	28.5	26.5

08162500 Colorado River near Bay City, Tex.

LOCATION.--Lat 28°58'26", Long 96°00'44", Matagorda County, on right bank 6,300 ft (1,920 m) downstream from bridge on State Highway 35, 7,100 ft (2,160 m) downstream from Texas and New Orleans Railroad Co. bridge, 2.8 miles (4.5 km) west of Bay City, and at mile 32.5 (52.3 km).

DRAINAGE AREA.--41,650 mi² (107,870 km²), approximately, of which 12,880 mi² (33,360 km²) is probably noncontributing.

PERIOD OF RECORD.--Discharge: July 1940 (in WSP 1046), April 1948 to current year. Records of elevation collected in this vicinity since 1946 are contained in reports of the National Weather Service.

Water quality: Chemical and biochemical analyses: October 1974 to September 1975.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level. July 2-6, 1940, nonrecording gage at highway bridge, 6,300 ft (1,920 m) upstream at datum 30.60 ft (9.327 m) lower.

AVERAGE DISCHARGE.--28 years (1948-76), 2,424 ft³/s (68.65 m³/s), 1,756,000 acre-ft/yr (2.17 km³/yr).

EXTREMES.--Current year: Maximum discharge, 19,900 ft³/s (564 m³/s) Apr. 22 (elevation, 23.47 ft or 7.154 m); minimum daily, 111 ft³/s (3.14 m³/s) Mar. 23.

Period of record: Maximum discharge, 84,100 ft³/s (2,380 m³/s) June 26, 1960; maximum elevation, 48.2 ft (14.69 m), present datum, July 4, 1940, at site 6,300 ft (1,920 m) upstream at bridge on State Highway 35, observed by Corps of Engineers (elevation, 46.6 ft or 14.20 m, adjusted to present site); no flow at times in 1951-53 and 1956.

Maximum elevation since 1869, 56.1 ft (17.10 m) Dec. 10, 1913. Flood in July 1869 probably reached about same elevation. Elevation of other floods are as follows: May 8, 1922, 55.4 ft (16.89 m); June 1929, 55.0 ft (16.76 m); June 22, 1935, 54.6 ft (16.64 m); Oct. 5, 1936, 52.2 ft (15.91 m); Aug. 2, 1938, 53.4 ft (16.28 m); Nov. 27, 1940, 47.6 ft (14.51 m). All above flood data from information by Texas and New Orleans Railroad Co. and adjusted to present site.

REMARKS.--Discharge records fair. Diversions above station for irrigation and municipal supply. For statement regarding upstream regulation and regulation by Soil Conservation Service floodwater-retarding structures, see Colorado River at Columbus (station 08161000).

REVISIONS.--WSP 1342: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT
1	244	1000	555	699	697	434	562	6890	1680	1120	3350	618
2	353	934	546	633	743	412	502	7830	5260	982	3200	657
3	442	1340	526	585	639	387	602	5120	11200	872	3000	782
4	662	1311	516	563	580	385	737	2490	9460	752	2490	954
5	715	944	542	520	541	405	611	1900	7700	845	2330	967
6	808	826	536	514	510	398	842	1680	3850	1040	2310	1320
7	711	845	529	503	508	394	5590	1580	2620	1550	2050	1250
8	769	742	506	477	518	428	7110	1860	2250	2620	1580	1060
9	883	722	529	489	482	440	3940	13400	1900	4280	992	988
10	923	1040	531	494	509	879	3060	15500	1470	5570	820	980
11	922	779	544	489	496	1480	3140	10500	1240	6020	770	966
12	934	656	525	483	483	1690	2230	4530	1170	4110	731	912
13	1010	610	537	1960	482	1090	1200	2650	1090	4620	699	839
14	1220	585	529	1400	465	587	631	2420	1040	4900	726	828
15	1616	1820	490	474	467	458	364	3490	931	4960	743	850
16	1600	2550	510	798	451	385	330	5240	931	5110	782	1080
17	1300	1650	589	697	447	344	435	3490	1050	6030	802	1110
18	995	1150	547	641	442	298	5220	2190	985	5990	990	1120
19	864	962	525	596	412	208	5530	1250	1010	6060	1090	1070
20	439	890	523	579	391	209	6860	722	1170	5820	1020	1570
21	796	808	511	566	421	211	16000	415	1110	5540	1020	1770
22	724	742	624	563	410	183	17100	430	1010	5160	1080	2180
23	698	712	794	561	374	111	10100	687	950	5160	988	2110
24	646	666	1730	557	383	448	6330	2640	883	5220	897	1800
25	712	618	6806	589	259	562	3640	2130	825	5280	769	1570
26	747	600	4790	566	271	571	2590	1400	845	5410	719	1590
27	946	573	1747	559	234	635	2970	1220	862	5430	714	1780
28	1170	583	1070	544	391	583	3270	1430	902	5250	705	2040
29	1100	587	873	659	412	634	3090	6440	1160	5220	715	2050
30	1470	581	905	684	---	603	3650	6480	1080	4500	724	2280
31	1250	---	818	651	---	512	---	2770	---	3660	708	---
TOTAL	26117	27790	31289	21075	13417	16384	118236	121574	67638	129081	39514	39091
MEAN	939	926	1009	680	463	529	3941	3022	2255	4164	1275	1303
MAX	1010	2550	6800	1960	743	1690	17100	15500	11200	6060	3350	2280
MIN	244	557	490	477	234	111	330	415	829	752	699	618
AC-FT	65470	55120	62060	41000	26610	32500	234500	241100	134200	256000	78380	77540
CAL YR 1975 TOTAL	1524141	MEAN	4176	MAX	47000	MIN	128	AC-FT	3023000			
WTR YR 1976 TOTAL	653256	MEAN	1785	MAX	17100	MIN	111	AC-FT	1296000			

08162500 Colorado River near Bay City, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)	HARD- NESS (CA+MG) (MG/L)
OCT 14...	1115	1070	641	7.5	25.0	10	10	4.0	95	.3	230
NOV 17...	1345	1380	626	7.4	20.0	20	90	9.6	104	1.4	250
DEC 08...	1045	460	779	7.0	16.5	20	15	7.6	78	.8	280
JAN 19...	1345	530	746	7.2	15.0	10	15	11.2	110	1.0	280
FEB 18...	1125	455	817	7.1	20.5	20	15	4.0	88	1.0	290
MAR 16...	1215	400	659	7.2	15.5	30	15	9.2	91	.9	220
APR 06...	1115	770	657	7.2	21.5	20	20	8.8	99	.7	230
MAY 04...	1145	2400	379	7.0	22.5	50	300	8.7	99	1.3	130
JUN 02...	1120	3800	372	7.0	24.5	40	220	7.2	86	1.6	130
JUL 13...	1350	4130	474	7.5	27.0	30	150	7.2	91	1.2	160
AUG 24...	1215	850	592	7.4	28.5	20	20	7.9	103	.8	220
SEP 27...	1330	1600	542	7.3	27.0	30	40	4.4	106	.9	200

DATE	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)
OCT 14...	34	61	20	35	1.0	3.4	239	0	35	58	--
NOV 17...	36	68	19	29	.8	3.7	258	0	37	49	.6
DEC 08...	39	79	21	49	1.3	3.3	298	0	39	73	.3
JAN 19...	45	78	21	40	1.0	3.1	288	0	36	69	.3
FEB 18...	31	80	21	55	1.4	3.8	311	0	41	83	.4
MAR 16...	71	61	16	43	1.3	5.0	180	0	70	65	.4
APR 06...	51	57	21	37	1.1	3.8	217	0	43	63	.6
MAY 04...	31	38	8.7	19	.7	3.7	121	0	35	29	.5
JUN 02...	18	39	7.0	18	.7	3.7	132	0	24	28	.3
JUL 13...	26	42	14	25	.9	3.6	167	0	30	43	.3
AUG 24...	40	50	22	34	1.0	3.6	214	0	34	58	.4
SEP 27...	33	49	20	30	.9	3.3	209	0	31	51	.4

DATE	DIS- SOLVED SILICA (SI02) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NON- FILT- RABLE RESIDUE (MG/L)	VOL. NON- FILT- RABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
OCT 14...	6.4	337	21	6	.06	.00	.02	.39	.09	2.4
NOV 17...	11	345	192	30	.92	.03	.05	.72	.42	3.0
DEC 08...	8.0	420	36	4	.10	.00	.05	.18	.07	2.2
JAN 19...	8.8	398	24	2	.20	.00	.06	.02	.17	1.0
FEB 18...	5.1	443	34	9	.08	.01	.04	.52	.11	1.4
MAR 16...	13	362	27	2	.35	.02	.18	.65	.32	7.4
APR 06...	11	343	47	8	.79	.01	.03	.33	.30	7.0
MAY 04...	11	205	852	156	.65	.02	.03	.97	.25	10
JUN 02...	11	196	596	84	.46	.02	.05	.91	.39	8.7
JUL 13...	12	252	361	77	.26	.00	.01	.62	.24	7.6
AUG 24...	7.8	315	39	22	.04	.00	.03	.34	.06	7.6
SEP 27...	8.3	296	79	31	.26	.00	.01	.30	.13	3.1

COLORADO RIVER BASIN

Miscellaneous samples during water year 1976

08158130 Wells Branch at Farmer Lane near Austin, Tex.
(Lat 30°24'31", Long 97°40'52")

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	HIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)	IMME- DIATE COLI- FORM (COL. PER 100 ML)	FECAL COLI- FORM (COL. PER 100 ML)
APR. 02...	0945	.08	533	7.4	18.0	10.2	107	1.3	1900	500
		STREP- TOCOCCEI (COL- ONIES PER 100 ML)	RICAP- MONATE (MG/L)	CAP- MONATE (MG/L)	TOTAL NITRATE (MG/L)	TOTAL NITRITE (MG/L)	TOTAL AMMONIA NITRO- GEN (MG/L)	TOTAL ORGANIC NITRO- GEN (MG/L)	TOTAL PHOS- PHORUS (MG/L)	TOTAL ORGANIC CARBON (MG/L)
APR. 2...	2100	260	260	0	.31	.01	.05	.41	.00	7.0

08158200 Walnut Creek at Dessau Road, Austin, Tex.
(Lat 30°22'30", Long 97°39'37")

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	HIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)	IMME- DIATE COLI- FORM (COL. PER 100 ML)	FECAL COLI- FORM (COL. PER 100 ML)
APR. 02...	1040	.54	617	7.5	17.5	8.0	53	.7	500	100
		STREP- TOCOCCEI (COL- ONIES PER 100 ML)	RICAP- MONATE (MG/L)	CAP- MONATE (MG/L)	TOTAL NITRATE (MG/L)	TOTAL NITRITE (MG/L)	TOTAL AMMONIA NITRO- GEN (MG/L)	TOTAL ORGANIC NITRO- GEN (MG/L)	TOTAL PHOS- PHORUS (MG/L)	TOTAL ORGANIC CARBON (MG/L)
APR. 2...	2000	236	236	0	1.2	.01	.01	.39	.04	7.8

08158500 Little Walnut Creek at Manor Road, Austin, Tex.
(Lat 30°19'53", Long 97°39'12")

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	HIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)	IMME- DIATE COLI- FORM (COL. PER 100 ML)	FECAL COLI- FORM (COL. PER 100 ML)
APR. 02...	1120	1.7	499	7.6	21.5	12.0	135	1.4	1600	420
		STREP- TOCOCCEI (COL- ONIES PER 100 ML)	RICAP- MONATE (MG/L)	CAP- MONATE (MG/L)	TOTAL NITRATE (MG/L)	TOTAL NITRITE (MG/L)	TOTAL AMMONIA NITRO- GEN (MG/L)	TOTAL ORGANIC NITRO- GEN (MG/L)	TOTAL PHOS- PHORUS (MG/L)	TOTAL ORGANIC CARBON (MG/L)
APR. 2...	1500	200	200	0	.05	.00	.01	.37	.04	8.2

TRES PALACIOS RIVER BASIN

213

08162600 Tres Palacios River near Midfield, Tex.

LOCATION.--Lat 28°55'40", long 96°10'15", Matagorda County, at left downstream end of bridge on Farm Road 456, 1.0 mile (1.6 km) downstream from Juanita Creek, and 2.4 miles (3.9 km) southeast of Midfield.

DRAINAGE AREA.--145 mi² (376 km²).

PERIOD OF RECORD.--Discharge: June 1970 to current year. Prior to October 1973, published as Tres Palacios Creek near Midfield.
Water quality: Chemical, biochemical, and pesticide analyses: October 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 5.38 ft (1.640 m) above mean sea level.

AVERAGE DISCHARGE.--6 years, 150 ft³/s (4.248 m³/s), 108,700 acre-ft/yr (134 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 3,820 ft³/s (108 m³/s) Dec. 25 (gage height, 28.03 ft or 8.544 m); minimum, 3.7 ft³/s (0.10 m³/s) Feb. 27.

Period of record: Maximum discharge, 7,590 ft³/s (215 m³/s) Sept. 11, 1973 (gage height, 31.11 ft or 9.482 m); minimum, 2.2 ft³/s (0.062 m³/s) Feb. 1, 2, 1971.

Maximum stages since 1885, 37 ft (11.3 m) in September 1960 and 35 ft (10.7 m) in June 1945, from information by local residents.

REMARKS.--Discharge records good. Ten known diversions above stations (amounts unknown). An undetermined amount of water from irrigated ricefields enters stream upstream at various points. Recording rain gage located at station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	18	16	44	9.1	6.0	6.8	154	520	23	25	31
2	35	159	11	33	9.1	5.4	9.8	64	1400	19	23	102
3	33	250	10	25	9.1	4.4	10	31	742	17	24	222
4	32	79	8.9	19	7.9	4.8	27	19	284	18	22	172
5	33	55	8.4	16	7.0	5.8	36	12	111	15	17	205
6	33	42	8.2	17	7.2	5.6	27	8.7	59	44	18	97
7	34	36	7.8	14	6.0	6.2	28	14	62	129	14	84
8	33	32	7.6	13	6.2	12	35	34	37	138	15	60
9	29	29	7.6	12	6.2	15	38	31	28	326	13	38
10	25	25	7.4	12	6.2	12	24	34	23	1010	17	31
11	25	23	7.4	11	5.6	9.6	17	25	21	1440	17	34
12	25	19	7.8	10	8.0	7.3	16	19	19	806	14	24
13	27	15	8.0	9.5	6.4	16	16	54	16	399	14	17
14	25	11	8.2	11	7.8	23	7.1	61	17	348	15	15
15	28	9.7	7.8	12	6.0	17	20	53	15	690	18	101
16	77	9.3	7.6	9.5	6.2	10	17	38	19	571	19	70
17	60	9.1	7.8	8.9	6.2	7.6	22	29	33	364	21	47
18	39	9.1	7.2	10	6.0	6.6	20	21	38	200	22	25
19	26	9.3	7.6	8.2	7.8	6.2	23	14	33	132	21	41
20	20	9.1	7.8	8.4	6.9	6.2	77	12	33	92	19	43
21	17	9.1	7.2	8.4	6.6	6.4	122	13	32	74	12	45
22	14	9.3	7.0	8.6	5.0	7.0	72	13	26	83	13	37
23	12	9.3	7.0	10	6.6	6.5	42	13	20	76	12	41
24	12	8.6	486	11	6.6	8.2	36	13	17	50	10	29
25	19	8.6	3460	8.9	4.8	11	30	13	15	44	13	21
26	36	9.1	2740	8.2	4.2	10	26	28	14	41	15	16
27	24	8.4	1580	17	5.4	19	21	34	18	34	13	49
28	18	8.6	532	11	6.8	12	14	42	26	26	13	108
29	18	10	200	8.9	6.2	15	216	30	23	22	14	125
30	18	12	103	8.4	---	18	275	24	26	25	18	94
31	18	---	61	8.4	---	10	---	22	---	30	24	---
TOTAL	883	941.6	9353.3	412.3	193.1	310.2	1330.7	976.7	3727	7286	525	2034
MEAN	28.5	31.4	302	13.3	6.66	10.0	44.4	31.5	124	235	16.9	67.8
MAX	77	250	3460	44	9.1	23	275	154	1400	1440	25	222
MIN	12	8.4	7.0	8.2	4.2	4.8	6.8	8.7	14	15	10	15
AC-FT	1750	1870	18550	818	383	615	2640	1940	7390	14450	1040	4030

CAL YR 1975 TOTAL 39107.9 MEAN 107.7 MAX 3460 MIN 7.0 AC-FT 77570
WTR YR 1976 TOTAL 27972.9 MEAN 76.4 MAX 3460 MIN 4.2 AC-FT 55480

PEAK DISCHARGE (BASE, 1,000 FT³/S)

DATE	TIME	G.HT.	DISCHARGE
12-25	1500	28.03	3,820
6-2	0800	21.47	1,570
7-11	0300	21.75	1,620

TRES PALACIOS RIVER BASIN

08162600 Tres Palacios River near Midfield, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)
OCT. 10...	1135	25	912	7.7	24.5	20	8.1	96	1.3	270	31
NOV. 13...	1615	14	1330	7.9	16.0	30	9.2	92	1.1	370	85
DEC. 23...	1535	7.1	1480	7.9	14.5	15	10.3	100	.9	400	73
FEB. 04...	1705	7.9	1290	8.4	20.5	8	12.2	134	1.9	350	61
MAR. 16...	1045	11	1190	7.6	16.0	50	8.6	86	2.9	270	82
MAY 05...	1100	13	804	7.5	24.0	50	6.7	79	3.1	230	33
JUNE 10...	1605	22	752	7.6	29.5	40	8.0	105	4.5	220	23
JULY 22...	1210	72	470	7.4	29.5	35	6.9	91	.8	150	0
SEP. 02...	1425	110	563	7.5	28.0	160	6.7	86	5.6	160	0

DATE	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	BROMIDE (BR) (MG/L)
OCT. 10...	72	22	80	2.1	4.6	292	0	27	130	--	--
NOV. 13...	100	28	150	3.4	5.4	342	0	28	240	.5	.5
DEC. 23...	110	30	180	3.9	4.0	396	0	34	280	.4	--
FEB. 04...	97	26	150	3.5	4.6	352	0	31	240	.5	--
MAR. 16...	73	22	150	4.0	5.5	234	0	43	240	.6	.5
MAY 05...	64	17	75	2.2	4.8	240	0	27	130	.5	--
JUNE 10...	59	18	70	2.0	3.3	242	0	31	110	.4	--
JULY 22...	42	11	42	1.5	3.6	184	0	9.1	61	.4	.3
SEP. 02...	41	13	52	1.8	9.0	201	0	12	72	.5	--

DATE	IODIDE (I) (MG/L)	DIS- SOLVED SILICA (SI02) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NON- FILT- RABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
OCT. 10...	--	12	492	41	.01	.00	.00	.56	.13	5.2
NOV. 13...	.13	22	744	54	.17	.00	.01	.60	.40	5.4
DEC. 23...	--	13	847	9	.00	.00	.02	.14	.54	--
FEB. 04...	--	7.2	730	17	.49	.02	.08	.66	.50	8.4
MAR. 16...	.19	16	667	106	2.6	.16	.15	1.1	.75	18
MAY 05...	--	18	455	82	1.1	.02	.04	.69	.46	8.5
JUNE 10...	--	23	434	83	.22	.01	.01	.78	.13	9.2
JULY 22...	.03	28	289	76	.23	.01	.05	.77	.22	7.0
SEP. 02...	--	32	331	400	.30	.03	.10	1.7	.45	14

TRES PALACIOS RIVER BASIN

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08162600 Tres Palacios River near Midfield, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		DIS-SOLVED ALUMINUM (AL) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	DIS-SOLVED CHROMIUM (CR) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)					
DATE	TIME												
NOV. 13...	1615	0	5	180	0	0	0	1					
MAR. 16...	1045	30	4	140	0	0	0	2					
JULY 22...	1210	10	5	110	0	0	0	2					
DATE	TIME	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MANGANESE (MN) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED STRONTIUM (SR) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)				
NOV. 13...	20	0	20	90	.0	0	760	10					
MAR. 16...	30	0	20	10	.1	0	500	10					
JULY 22...	110	0	10	0	.1	0	360	10					
DATE	TIME	TOTAL PCB (UG/L)	PCB IN BOTTOM MATERIAL (UG/KG)	POLY-CHLORINATED BIPHENYLENES (UG/L)	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL CHLORDANE (UG/L)	CHLORDANE IN BOTTOM MATERIAL (UG/KG)	TOTAL DDT (UG/L)	DDT IN BOTTOM MATERIAL (UG/KG)	TOTAL DDE (UG/L)	DDE IN BOTTOM MATERIAL (UG/KG)	
NOV. 13...	1615	.0	0	--	.00	.6	.0	0	.00	2.2	.00	4.4	
MAR. 16...	1045	.0	0	.00	.00	.0	.0	0	.00	1.0	.00	3.0	
JULY 22...	1210	.0	0	.00	.00	.0	.0	0	.00	1.4	.00	2.5	
DATE	TIME	TOTAL DDT (UG/L)	DDT IN BOTTOM MATERIAL (UG/KG)	TOTAL DIELDRIN (UG/L)	DI-ELDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL ETHION (UG/L)	TOTAL HEPTACHLOR (UG/L)	HEPTACHLOR IN BOTTOM MATERIAL (UG/KG)	TOTAL HEPTACHLOR EPOXIDE (UG/L)	HEPTACHLOR EPOXIDE IN BOTTOM MATERIAL (UG/KG)	
NOV. 13...	.00	2.0	.00	.00	1.4	.00	.0	.00	.00	.0	.00	.0	
MAR. 16...	.00	1.3	.04	.00	1.4	.00	.0	.00	.00	.0	.00	.2	
JULY 22...	.00	.4	.00	.01	1.1	.00	.0	.00	.00	.0	.00	.0	
DATE	TIME	TOTAL LINDANE (UG/L)	LINDANE IN BOTTOM MATERIAL (UG/KG)	TOTAL MALATHION (UG/L)	TOTAL METHYL PARATHION (UG/L)	TOTAL METHYL TRIETHION (UG/L)	TOTAL PARAETHION (UG/L)	TOTAL TOXAPHENE (UG/L)	TOXAPHENE IN BOTTOM MATERIAL (UG/KG)	TOTAL TRIETHION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
NOV. 13...	.00	.0	.00	.00	.00	.00	0	0	.00	.00	.00	.00	.00
MAR. 16...	.00	.0	.00	.00	.00	.00	0	0	.00	.00	.00	.00	.00
JULY 22...	.00	.0	.00	.00	.00	.00	0	0	.00	.00	.00	.00	.00

CASHS CREEK BASIN

08162650 Cashs Creek near Blessing, Tex.
(Low-flow partial-record station)

LOCATION.--Lat 28°48'38", long 96°11'51", Matagorda County, at bridge on county road, 2.0 miles (3.2 km) upstream from Farm Road 521, and 4.4 miles (7.1 km) southeast of Blessing.

DRAINAGE AREA.--14.8 mi² (38.3 km²).

PERIOD OF RECORD.--Occasional discharge measurements: March 1969 to current year. Occasional water-quality data: October 1968 to current year.

DISCHARGE AND WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	RIO-CHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)
OCT 15...	1040	3.3	905	7.6	24.0	8	6.4	75	1.2	250	24
NOV 13...	1100	.98	1060	7.6	16.0	20	7.9	79	.8	290	36
DEC 23...	1105	.36	1560	7.6	13.5	30	8.7	82	.7	420	52
FEB 05...	1150	.44	1520	7.6	21.0	7	8.4	93	.9	400	60
MAR 16...	1700	1.9	1310	7.8	18.5	30	9.0	96	2.6	340	33
APR 30...	1115	41	269	7.2	20.0	110	6.8	74	5.7	75	23
JUN 11...	1150	.42	1120	7.4	25.5	10	6.1	76	4.3	300	13
JUL 21...	1345	6.8	650	7.3	28.0	40	6.2	79	1.8	170	0
SEP 01...	1625	7.2	897	7.5	29.0	20	6.2	82	3.1	240	18

DATE	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	BROMIDE (BR) (MG/L)
OCT 15...	61	24	94	2.6	6.0	277	0	17	150	--	--
NOV 13...	71	27	120	3.1	4.3	309	0	30	170	.6	.5
DEC 23...	100	42	190	4.0	3.0	452	0	54	270	.5	--
FEB 05...	94	40	180	3.9	3.2	414	0	55	270	.7	--
MAR 16...	75	37	170	4.0	4.3	375	0	63	220	.8	.7
APR 30...	21	5.5	23	1.2	3.8	64	0	16	31	.5	--
JUN 11...	73	29	130	3.3	2.8	352	0	31	190	.7	--
JUL 21...	40	16	70	2.4	2.6	220	0	3.3	100	.6	.5
SEP 01...	60	21	90	2.5	4.0	266	0	14	160	.6	--

DATE	IODIDE (I) (MG/L)	DISSOLVED SILICA (SiO2) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NON-FILTERABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
OCT 15...	--	27	516	20	.06	.01	.01	.69	.10	9.6
NOV 13...	.14	16	593	28	.10	.01	.01	.53	.11	6.4
DEC 23...	--	16	898	13	.01	.00	.01	.15	.17	--
FEB 05...	--	11	858	15	.01	.00	.13	.14	.11	4.1
MAR 16...	.18	9.9	767	48	.09	.01	.00	.65	.19	6.2
APR 30...	--	11	143	224	3.4	.12	.55	2.1	.30	9.4
JUN 11...	--	18	648	22	.21	.01	.06	1.0	.18	11
JUL 21...	.06	23	365	82	.08	.01	.03	.85	.16	8.8
SEP 01...	--	37	518	36	.01	.00	.01	1.2	.20	18

CASHS CREEK BASIN

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08162650 Cashs Creek near Blessing, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		DIS-SOLVED ALUM-INUM (AL) (UG/L)		DIS-SOLVED ARSENIC (AS) (UG/L)		DIS-SOLVED BORON (B) (UG/L)		DIS-SOLVED CAD-MIUM (CD) (UG/L)		DIS-SOLVED CHRO-MIUM (CR) (UG/L)		DIS-SOLVED COBALT (CO) (UG/L)		DIS-SOLVED COPPER (CU) (UG/L)	
		DATE	TIME												
		NOV. 13...	1100		0	2	130	0	0	0	0	0	0	2	
		MAR. 16...	1700		20	4	200	0	0	0	0	0	0	0	
		JULY 21...	1345		30	5	140	0	0	0	0	0	0	2	
		DATE		DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED STRON-TIUM (SR) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)				
		NOV. 13...	10	0	0	20	90	.0	0	660	10				
		MAR. 16...	0	0	0	20	10	.1	0	620	10				
		JULY 21...	70	0	0	10	0	.0	0	300	0				
		DATE	TIME	TOTAL PCB (UG/L)	PCH IN BOTTOM MA-TERIAL (UG/KG)	POLY-CHLO-RINATED NAPH-THA-LENES (UG/L)	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MA-TERIAL (UG/KG)	TOTAL CHLOR-DANE (UG/L)	CHLOR-DANE IN BOTTOM MA-TERIAL (UG/KG)	TOTAL DDD (UG/L)	DDD IN BOTTOM MA-TERIAL (UG/KG)	TOTAL DDE (UG/L)	DDE IN BOTTOM MA-TERIAL (UG/KG)	
		NOV. 13...	1100	.0	0	--	.00	.0	.0	0	.00	.3	.00	.3	
		MAR. 16...	1700	.0	0	.00	.00	.0	.0	0	.00	.0	.00	.2	
		JULY 21...	1345	.0	0	.00	.00	.0	.0	0	.00	.5	.00	.2	
		DATE	TIME	TOTAL DDT (UG/L)	DDT IN BOTTOM MA-TERIAL (UG/KG)	DIP-ELDRIN IN BOTTOM MA-TERIAL (UG/L)	DIP-ELDRIN IN BOTTOM MA-TERIAL (UG/KG)	ENDRIN IN BOTTOM MA-TERIAL (UG/KG)	ENDRIN IN BOTTOM MA-TERIAL (UG/L)	TOTAL FT-THION (UG/L)	TOTAL HEPTA-CHLOR (UG/L)	HEPTA-CHLOR IN BOTTOM MA-TERIAL (UG/KG)	TOTAL HEPTA-CHLOR EPOXIDE (UG/L)	HEPTA-CHLOR EPOXIDE IN BOTTOM MA-TERIAL (UG/KG)	
		NOV. 13...	.00	.0	.00	.00	.0	.00	.0	.00	.00	.0	.00	.0	
		MAR. 16...	.00	.0	.00	.00	.1	.00	.0	.00	.00	.0	.00	.0	
		JULY 21...	.00	.0	.00	.02	.6	.00	.0	.00	.00	.0	.00	.0	
		DATE	TIME	TOTAL LINDANE (UG/L)	LINDANE IN BOTTOM MA-TERIAL (UG/KG)	TOTAL MALA-THION (UG/L)	METHYL PAPA-THION (UG/L)	METHYL TRI-THION (UG/L)	TOTAL PAMA-THION (UG/L)	TOTAL TOX-APHENE (UG/L)	TOTAL TRI-THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL STILBEX (UG/L)	
		NOV. 13...	.00	.0	.00	.00	.00	.00	.0	0	.00	.00	.00	.00	
		MAR. 16...	.00	.0	.00	.00	.00	.00	.0	0	.00	.00	.00	.00	
		JULY 21...	.00	.0	.00	.00	.00	.00	.0	0	.00	.00	.00	.00	

08162700 East Carancahua Creek near Blessing, Tex.
(Reconnaissance partial-record station)

LOCATION.--Lat 28°51'48", long 96°17'05", Matagorda County, at bridge on Farm Road 616, 100 ft (30 m) downstream from Missouri Pacific Railroad bridge, and 4.2 miles (6.8 km) west of Blessing.

DRAINAGE AREA.--81.2 mi² (210.3 km²).

PERIOD OF RECORD.--Periodic discharge measurements: September 1967 to July 1968, February 1970 to current year. Periodic water-quality data: February 1968 (revised) to current year.

DISCHARGE AND WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIO-CHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	
OCT 15...	1155	5.8	1270	7.8	24.5	30	7.0	83	1.2	310	66	
NOV 13...	1225	1.5	1060	7.7	16.0	15	8.6	86	1.0	310	59	
DEC 23...	0950	.80	1560	7.7	11.5	30	9.5	86	.7	430	94	
FEB 04...	1405	1.5	1430	7.8	21.0	15	9.1	101	1.5	400	73	
MAR 16...	1515	2.3	1370	7.9	21.0	25	10.3	114	1.9	360	97	
MAY 05...	1325	13	685	7.6	26.0	55	6.8	83	4.0	170	0	
JUN 10...	1135	18	623	7.6	27.0	65	7.6	96	5.5	170	0	
JUL 21...	1130	28	505	7.4	29.0	35	6.7	88	2.1	150	2	
SEP 01...	1455	74	423	7.3	28.5	90	6.0	78	5.9	120	0	
DATE		DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISSOLVED PHOSPHORUS (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	BROMIDE (BR) (MG/L)
OCT 15...	71	33	150	3.7	6.4	301	0	23	250	--	--	
NOV 13...	74	31	110	2.7	6.0	310	0	33	180	.6	.6	
DEC 23...	87	51	190	4.0	3.3	406	0	58	290	.7	--	
FEB 04...	91	43	160	3.5	4.0	404	0	50	250	.8	--	
MAR 16...	65	48	170	3.9	3.0	322	0	70	260	.9	.9	
MAY 05...	42	17	75	2.5	3.8	217	0	26	100	.5	--	
JUN 10...	40	17	65	2.2	2.6	221	0	16	84	.5	--	
JUL 21...	37	15	44	1.5	4.0	186	0	11	66	.5	.3	
SEP 01...	31	11	36	1.4	12	152	0	9.6	53	.4	--	
DATE		IODIDE (I) (MG/L)	DISSOLVED SILICA (SiO2) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NON-FILTERABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	
OCT 15...	--	36	718	48	.01	.00	.00	.65	.06	6.2		
NOV 13...	.15	19	608	30	.00	.00	.01	.62	.06	8.0		
DEC 23...	--	12	892	10	.00	.00	.01	.14	.01	--		
FEB 04...	--	13	811	30	.00	.00	.19	.77	.06	9.4		
MAR 16...	.28	7.1	785	43	.00	.02	.00	.70	.03	4.9		
MAY 05...	--	14	385	90	.09	.02	.04	1.4	.07	9.0		
JUN 10...	--	20	354	122	.11	.02	.04	1.1	.05	12		
JUL 21...	.04	31	301	76	.01	.01	.02	.74	.13	7.5		
SEP 01...	--	29	257	124	.00	.00	.03	1.6	.54	17		

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

				DIS-SOLVED ALUMINUM (AL) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	DIS-SOLVED CHROMIUM (CR) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)									
		DATE	TIME																
		NOV. 13...	1225	0	3	150	0	0	0	3									
		MAR. 16...	1515	20	2	120	0	0	0	0									
		JULY 21...	1130	10	5	80	0	0	0	3									
		DATE	TIME	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MANGANESE (MN) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED STRONTIUM (SR) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)								
		NOV. 13...	40	0	20	80	.0	0	840	20									
		MAR. 16...	0	0	30	0	.2	0	890	0									
		JULY 21...	110	3	10	0	.0	3	400	10									
		DATE	TIME	TOTAL PCB (UG/L)	PCB IN BOTTOM MATERIAL (UG/KG)	POLY-CHLORINATED BIPHENYLENES (UG/L)	TOTAL ALUMINUM (UG/L)	ALUMINUM IN BOTTOM MATERIAL (UG/KG)	TOTAL CHLORODANE (UG/L)	CHLORODANE IN BOTTOM MATERIAL (UG/KG)	TOTAL ODD (UG/L)	DDD IN BOTTOM MATERIAL (UG/KG)	TOTAL ODE (UG/L)	ODE IN BOTTOM MATERIAL (UG/KG)					
NOV. 13...	1225	.0	0	--	.00	.0	.0	.0	.0	.00	.0	.00	.3						
MAR. 16...	1515	.0	0	.00	.00	.0	.0	.0	.0	.00	.0	.00	.0						
JULY 21...	1130	.0	0	.00	.00	.0	.0	.0	.0	.00	.0	.00	.1						
		DATE	TIME	TOTAL ODT (UG/L)	ODT IN BOTTOM MATERIAL (UG/KG)	TOTAL DDT (UG/L)	DDT IN BOTTOM MATERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL ETHION (UG/L)	ETHION IN BOTTOM MATERIAL (UG/KG)	TOTAL HEPTACHLOR EPOXIDE (UG/L)	HEPTACHLOR EPOXIDE IN BOTTOM MATERIAL (UG/KG)						
NOV. 13...	.00	.0	.00	.00	1.0	.00	.0	.00	.0	.00	.0	.00	.0						
MAR. 16...	.00	.0	.00	.00	.0	.00	.0	.00	.0	.00	.0	.00	.0						
JULY 21...	.00	.0	.00	.00	.0	.00	.0	.00	.0	.00	.0	.00	.0						
		DATE	TIME	TOTAL LINDANE (UG/L)	LINDANE IN BOTTOM MATERIAL (UG/KG)	TOTAL MALATHION (UG/L)	MALATHION IN BOTTOM MATERIAL (UG/KG)	TOTAL PARA-THION (UG/L)	PARA-THION IN BOTTOM MATERIAL (UG/KG)	TOTAL TOXAPHENE (UG/L)	TOXAPHENE IN BOTTOM MATERIAL (UG/KG)	TOTAL TRI-THION (UG/L)	TRI-THION IN BOTTOM MATERIAL (UG/KG)	TOTAL 2,4-D (UG/L)	2,4-D IN BOTTOM MATERIAL (UG/L)	TOTAL 2,4,5-T (UG/L)	2,4,5-T IN BOTTOM MATERIAL (UG/L)	TOTAL SILVEX (UG/L)	SILVEX IN BOTTOM MATERIAL (UG/L)
NOV. 13...	.00	.0	.00	.00	.00	.00	.00	.00	0	0	.00	.00	.00	.00	.00	.00	.00	.00	.00
MAR. 16...	.00	.0	.00	.00	.00	.00	.00	.00	0	0	.00	.00	.00	.00	.00	.00	.00	.00	.00
JULY 21...	.00	.0	.00	.00	.00	.00	.00	.00	0	0	.00	.00	.00	.00	.00	.00	.00	.00	.00

EAST CARANCAHUA CREEK BASIN

08162800 West Carancahua Creek near LaWard, Tex.
(Reconnaissance partial-record station)

LOCATION.--Lat 28°53'19", long 96°27'03", Jackson County, at bridge on county road, 3.2 miles (5.1 km) northeast of LaWard, 3.8 miles (6.1 km) upstream from Lunis Creek, and 6.3 miles (10.1 km) upstream from Missouri Pacific Railroad bridge and Farm Road 616.

DRAINAGE AREA.--57.1 mi² (147.9 km²).

PERIOD OF RECORD.--Periodic discharge measurements: September 1967 to July 1968, February 1970 to current year. Periodic water-quality data: February 1968 (revised) to current year.

DISCHARGE AND WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)
OCT 14...	1720	5.6	880	8.1	27.0	40	7.7	95	2.3	230	6
MAR 16...	1340	.22	352	8.0	22.5	90	9.6	109	3.0	100	17
APR 28...	1550	.73	1110	8.3	27.5	35	8.5	106	5.1	170	42
JUN 10...	0945	2.0	543	8.1	26.0	20	8.0	100	4.8	180	23
JUL 21...	0950	19	392	7.5	30.0	35	7.0	93	1.1	120	1
SEP 01...	1215	13	712	7.8	29.5	70	8.0	105	3.0	220	0

DATE	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	BROMIDE (BR) (MG/L)
OCT 14...	60	20	95	2.7	9.0	276	0	9.2	140	--	--
MAR 16...	30	6.5	28	1.2	7.5	103	0	16	43	.5	.2
APR 28...	43	16	160	5.3	8.8	152	4	24	270	.6	--
JUN 10...	51	12	42	1.4	4.8	188	0	21	60	.5	--
JUL 21...	34	9.3	29	1.1	5.5	150	0	6.6	52	.4	.3
SEP 01...	59	18	58	1.7	15	272	0	8.0	94	.5	--

DATE	IODIDE (I) (MG/L)	DISSOLVED SILICA (SI02) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NON-FILTERABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
OCT 14...	--	50	519	79	.00	.00	.00	1.1	.16	14
MAR 16...	.01	13	196	132	1.6	.12	.05	1.1	.18	19
APR 28...	--	2.6	604	58	.00	.01	.07	1.1	.07	17
JUN 10...	--	19	303	42	.00	.00	.04	1.1	.10	14
JUL 21...	.01	37	249	80	.01	.00	.01	.60	.12	7.1
SEP 01...	--	59	446	134	.01	.00	.05	1.2	.14	12

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WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

				DIS-SOLVED ALUMINUM (AL) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	DIS-SOLVED CHROMIUM (CR) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)
		DATE	TIME							
		MAR. 16...								
		JULY 21...								

LAVACA RIVER BASIN

08163500 Lavaca River at Hallettsville, Tex.

LOCATION.--Lat 29°26'35", long 96°56'39", Lavaca County, on left bank 75 ft (23 m) downstream from bridge on U.S. Highway 77 in Hallettsville and 0.7 mile (1.1 km) downstream from Campbell Branch.

DRAINAGE AREA.--108 mi² (280 km²).

PERIOD OF RECORD.--July 1939 to current year.

GAGE.--Water-stage recorder. Datum of gage is 186.72 ft (56.912 m) above mean sea level. Prior to Apr. 19, 1960, water-stage recorder for high stages and movable nonrecording gage for stages below about 6.2 ft (1.89 m). Apr. 20, 1960, to June 2, 1961, movable nonrecording gage. All gages at same site and datum.

AVERAGE DISCHARGE.--37 years, 47.2 ft³/s (1.337 m³/s), 5.93 in/yr (151 mm/yr), 34,200 acre-ft/yr (42.2 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 3,900 ft³/s (110 m³/s) May 26 (gage height, 20.40 ft or 6.218 m); minimum, 1.8 ft³/s (0.051 m³/s) Sept. 12-14.

Period of record: Maximum discharge, 93,100 ft³/s (2,640 m³/s) June 30, 1940 (gage height, 40.60 ft or 12.375 m, from floodmarks), from rating curve extended above 23,000 ft³/s (651 m³/s) on basis of slope-area measurement of peak flow; no flow at times in 1953 and 1956.

Maximum stage since at least 1840, that of June 30, 1940; maximum stage from about 1870 to 1940, 32.8 ft (10.00 m) July 16, 1936, from information by local resident.

REMARKS.--Records good. No diversion above station. The Corps of Engineers began channel rectification 1.6 miles (2.6 km) downstream from gage in April 1959. This rectification reached the gage Sept. 21, 1959, and was completed in February 1960.

REVISIONS (WATER YEARS).--WSP 1312: 1942(M), 1944(M). WSP 1732: 1952(M). WSP 2123: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	5.9	7.7	6.7	6.1	5.4	5.0	24	587	4.3	3.5	2.5
2	4.0	6.7	7.4	6.6	6.2	5.3	4.7	16	346	4.1	3.3	2.8
3	4.1	8.2	6.8	6.1	6.2	5.3	4.7	13	62	4.6	3.0	3.9
4	4.2	7.0	6.7	6.0	6.1	5.4	5.5	10	34	5.6	2.9	3.0
5	4.3	6.7	6.6	6.0	6.4	5.4	166	8.9	25	6.0	2.9	2.5
6	4.4	6.5	6.5	6.0	6.6	5.7	110	8.5	20	6.3	2.9	2.6
7	4.5	6.2	6.4	6.1	6.4	12	23	503	17	5.9	2.7	2.8
8	4.8	6.1	6.2	6.0	6.3	17	70	330	15	6.7	2.6	2.2
9	4.7	5.9	6.3	6.0	6.2	12	35	40	14	7.0	2.6	2.1
10	4.6	5.9	6.4	6.3	6.2	9.2	15	23	12	11	2.4	2.1
11	4.6	5.8	6.4	6.4	6.1	8.0	10	18	12	11	2.5	2.0
12	4.6	5.7	6.3	6.4	6.0	7.3	8.6	15	11	7.9	2.8	1.9
13	4.5	5.8	6.1	6.6	6.0	7.4	7.8	1020	10	6.7	2.8	1.9
14	4.5	5.9	6.2	6.3	6.0	7.5	7.2	130	9.4	7.1	2.5	1.9
15	4.7	5.9	6.8	6.2	5.9	7.6	7.0	40	9.1	7.9	2.9	3.7
16	5.3	6.0	6.9	6.1	5.9	7.3	289	26	8.8	14	3.7	3.9
17	5.0	6.0	7.0	6.0	6.0	6.8	64	21	8.3	16	3.5	2.4
18	4.9	6.6	6.6	6.0	5.8	6.4	336	18	8.0	9.6	4.3	2.1
19	4.8	6.9	6.4	6.1	5.7	6.4	319	16	9.4	7.3	3.2	2.4
20	4.7	7.3	6.2	7.6	5.6	6.2	238	47	7.5	6.1	2.5	4.6
21	4.8	7.6	6.2	7.4	6.4	6.1	91	7.1	6.5	5.5	2.4	4.2
22	4.9	7.6	6.2	7.5	6.0	6.3	31	22	6.2	5.3	2.4	4.4
23	4.8	6.9	6.2	7.4	6.1	6.2	23	15	6.2	5.0	2.5	3.8
24	4.7	6.7	8.1	7.1	5.9	6.3	20	12	5.9	11	2.5	2.8
25	7.4	6.6	10	6.9	5.7	6.2	19	11	5.8	9.2	2.4	2.3
26	11	6.9	9.4	6.6	5.4	6.4	18	1650	5.7	6.8	2.3	2.9
27	8.4	6.9	7.9	6.3	5.4	6.1	14	381	5.2	5.8	2.1	3.5
28	7.2	6.7	7.0	6.2	5.4	5.8	13	82	5.0	4.9	4.1	42
29	6.5	6.7	6.6	6.2	5.5	5.7	207	43	4.9	4.2	4.4	36
30	6.3	8.7	6.6	6.4	---	5.4	80	32	4.5	3.9	2.7	11
31	6.1	---	6.8	6.3	---	5.3	---	27	---	3.6	2.4	---
TOTAL	163.6	198.3	212.9	199.8	173.4	219.4	2241.5	4672.4	1281.4	220.3	89.7	166.2
MEAN	5.28	6.61	6.87	6.45	5.98	7.08	74.7	151	42.7	7.11	2.89	5.54
MAX	11	8.7	10	7.6	6.6	17	336	1650	587	16	4.4	42
MIN	3.9	5.7	6.1	6.0	5.4	5.3	4.7	8.5	4.5	3.6	2.1	1.9
CFSM	.065	.05	.06	.06	.06	.07	.69	1.40	.40	.07	.03	.05
IN	.06	.07	.07	.07	.06	.08	.77	1.61	.44	.08	.03	.06
AC-FT	325	303	422	396	344	435	4450	9270	2540	437	178	330

CAL YR 1975 TOTAL 22292.8 MEAN 61.1 MAX 5280 MIN 3.7 CFSM .57 IN 7.68 AC-FT 44220
WTR YR 1976 TOTAL 9838.9 MEAN 26.9 MAX 1650 MIN 1.9 CFSM .25 IN 3.39 AC-FT 19520

PEAK DISCHARGE (BASE, 2,300 FT³/S).--May 26 (1500) 3,900 ft³/s (20.40 ft).

08164000 Lavaca River near Edna, Tex.

LOCATION.--Lat 28°57'35", long 96°41'10", Jackson County, at downstream side near center of upstream bridge of two bridges on U.S. Highway 59, 660 ft (201 m) upstream from Texas and New Orleans Railroad Co. bridge, and 2.8 miles (4.5 km) southwest of Edna.

DRAINAGE AREA.--817 mi² (2,116 km²).

PERIOD OF RECORD.--Discharge: August 1938 to current year.

Water quality: Chemical analyses: October 1960 to current year. Pesticide analyses: January 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 13.88 ft (4.231 m) above mean sea level. Prior to June 6, 1939, nonrecording gage (property of Corps of Engineers); June 6, 1939, to Apr. 3, 1957, nonrecording gage at site 110 ft (34 m) downstream; Apr. 4, 1957, to Mar. 21, 1961, nonrecording gage; all at same datum.

AVERAGE DISCHARGE.--38 years, 309 ft³/s (8.751 m³/s), 5.14 in/yr (131 mm/yr), 223,900 acre-ft/yr (276 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 5,180 ft³/s (147 m³/s) May 8 (gage height, 20.36 ft or 6.206 m); minimum, 28 ft³/s (0.79 m³/s) Aug. 28.
Period of record: Maximum discharge, 73,000 ft³/s (2,070 m³/s) July 1, 1940 (gage height, 32.51 ft or 9.909 m); no flow at times. Maximum stage since at least 1880, 33.8 ft (10.30 m) May 25, 1936 (discharge, 83,400 ft³/s or 2,360 m³/s), from information by local resident.

REMARKS.--Discharge records good. Small diversions above station for irrigation.

REVISIONS (WATER YEARS).--WSP 1923: 1955. WSP 2123: Drainage area. WRD Texas 1973: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	48	42	79	44	40	39	979	374	55	61	51
2	49	59	42	71	44	41	41	384	2530	52	57	44
3	51	56	46	60	44	41	40	245	2020	51	53	46
4	50	86	45	54	43	41	37	178	597	60	49	51
5	48	90	44	52	44	41	200	141	329	58	47	43
6	48	59	43	51	43	40	265	122	249	91	44	44
7	47	51	43	50	42	40	318	350	204	100	42	38
8	47	48	43	47	43	57	2630	4150	175	97	41	36
9	46	46	43	46	44	135	1030	3030	153	310	40	35
10	45	45	43	46	45	128	483	614	135	1160	37	33
11	45	43	43	48	45	93	273	365	123	1180	36	31
12	45	42	43	48	44	74	185	277	113	527	34	30
13	45	41	43	48	44	62	142	1140	105	318	33	30
14	45	40	43	47	44	54	119	2730	98	268	33	30
15	46	40	43	45	44	52	104	1660	93	445	33	30
16	49	40	45	46	44	51	97	453	224	1190	35	46
17	94	40	47	45	44	48	161	276	124	974	66	36
18	78	40	46	44	44	47	480	203	103	417	54	33
19	59	41	46	44	43	47	857	166	96	250	54	34
20	53	43	46	46	43	47	1530	143	88	174	43	39
21	51	44	45	51	43	44	1950	576	78	143	38	49
22	44	44	44	49	42	43	972	930	72	118	36	76
23	47	44	44	50	41	44	370	281	65	105	33	104
24	46	44	1200	50	40	45	250	179	62	107	32	69
25	49	43	2720	52	40	44	200	138	60	187	31	53
26	108	42	632	51	40	45	173	589	60	224	30	49
27	94	41	315	47	40	44	151	1310	81	153	29	135
28	92	41	207	46	40	43	131	2300	65	101	29	131
29	78	42	146	45	40	43	601	672	60	81	33	298
30	63	42	107	44	---	42	2060	300	57	71	34	358
31	52	---	90	45	---	40	---	215	---	65	42	---
TOTAL	1773	1425	6429	1547	1241	1656	15889	25596	8593	9132	1259	2082
MEAN	57.2	47.5	207	49.9	42.8	53.4	530	226	286	295	40.6	69.4
MAX	108	90	2720	79	45	135	2630	4150	2530	1190	66	358
MIN	45	40	42	44	40	40	37	122	57	51	29	30
CFSM	.77	.06	.25	.06	.05	.07	.65	1.01	.35	.36	.05	.08
IN.	.08	.06	.29	.07	.06	.08	.72	1.17	.39	.42	.06	.09
AC-FT	3520	2830	12750	3070	2460	3280	31520	50770	17040	18110	2500	4130

CAL YR 1975 TOTAL 127617 MEAN 350 MAX 8660 MIN 40 CFSM .43 IN 5.81 AC-FT 253100
WTR YR 1976 TOTAL 76622 MEAN 209 MAX 4150 MIN 29 CFSM .26 IN 3.49 AC-FT 152000

PEAK DISCHARGE (BASE, 4,100 FT³/S).--Dec. 25 (0300) 4,110 ft³/s (18.67 ft); May 8 (2200) 5,180 ft³/s (20.36 ft).

LAVACA RIVER BASIN

08164000 Lavaca River near Edna, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	PTO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)	HARD- NESS (CA, MG) (MG/L)
NOV 20...	1030	49	752	7.9	17.5	8.4	88	1.2	270
JAN 22...	1555	54	719	8.2	15.0	13.2	129	1.2	250
MAR 25...	1440	42	797	8.0	23.0	9.0	103	2.0	300
MAY 27...	1645	1750	209	7.4	24.0	6.3	74	7.0	70
JUL 22...	0915	120	604	7.9	27.0	6.9	87	1.4	220
SEP 23...	1445	100	550	7.8	25.0	7.7	95	2.5	150
DATE	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)
NOV 20...	0	100	5.8	54	1.4	2.4	352	0	23
JAN 22...	12	91	5.8	56	1.5	2.2	290	0	26
MAR 25...	25	110	6.4	63	1.6	2.5	336	0	27
MAY 27...	0	25	1.8	13	.7	3.2	89	0	8.9
JUL 22...	0	76	6.1	44	1.3	3.4	164	0	16
SEP 23...	0	56	3.5	54	1.9	3.7	212	0	20
DATE	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)
NOV 20...	70	.7	21	450	.25	.01	.01	.30	.11
JAN 22...	74	.3	10	405	.03	.01	.04	.41	.04
MAR 25...	83	.5	22	480	.25	.01	.17	.55	.19
MAY 27...	16	.1	10	122	.21	.01	.14	1.6	.28
JUL 22...	61	.4	24	361	.16	.00	.04	.72	.10
SEP 23...	58	5.0	22	327	.39	.01	.02	.77	.21

08164000 Lavaca River near Edna, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL PCB (UG/L)	PCB IN BOTTOM MA- TERIAL (UG/KG)	POLY- CHLO- RINATED NAPH- THA- LENES (UG/L)	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL CHLOR- DANE (UG/L)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDD (UG/L)	DDD IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDE (UG/L)	DDE IN BOTTOM MA- TERIAL (UG/KG)
JAN. 22...	1555	.0	0	.00	.00	.0	.0	0	.00	.0	.00	.1
MAR. 25...	1440	.0	0	.00	.00	.0	.0	0	.00	.0	.00	.0
MAY 27...	1645	.0	--	.00	.00	--	.0	--	.00	--	.00	--
JULY 22...	0915	.0	0	.00	.00	.0	.0	0	.00	.0	.00	.0
DATE	TOTAL DDT (UG/L)	DDT IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	DI- ELDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ETHION (UG/L)	TOTAL HEPTA- CHLOR (UG/L)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG)
JAN. 22...	.00	.0	.00	.00	.0	.00	.0	.00	.00	.0	.00	.0
MAR. 25...	.00	.0	.00	.00	.0	.00	.0	.00	.00	.0	.00	.0
MAY 27...	.00	--	.01	.00	--	.00	--	.00	.00	--	.00	--
JULY 22...	.00	.0	.00	.00	.0	.00	.0	.00	.00	.0	.00	.0
DATE	TOTAL LINDANE (UG/L)	LINDANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL TOX- APHENE (UG/L)	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
JAN. 22...	.00	.0	.00	.00	.00	.00	0	0	.00	.01	.00	.00
MAR. 25...	.00	.0	.00	.00	.00	.00	0	0	.00	.00	.00	.00
MAY 27...	.00	--	.00	.00	.00	.00	0	--	.00	.04	.02	.00
JULY 22...	.00	.0	.00	.00	.00	.00	0	0	.00	.00	.00	.00

LAVACA RIVER BASIN

08164300 Navidad River near Hallettsville, Tex.

LOCATION.--Lat 29°28'00", Long 96°48'45", Lavaca County, on right bank 28 ft (9 m) downstream from bridge on U.S. Highway 90-A, 0.8 mile (1.3 km) downstream from Mixons Creek, 1.2 miles (1.9 km) southwest of Sublime, and 8 miles (13 km) northeast of Hallettsville.

DRAINAGE AREA.--332 mi² (860 km²).

PERIOD OF RECORD.--October 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 159.28 ft (48.549 m) above mean sea level.

AVERAGE DISCHARGE.--15 years, 153 ft³/s (4.333 m³/s), 6.26 in/yr (159 mm/yr), 110,800 acre-ft/yr (137 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 4,510 ft³/s (128 m³/s) June 2 (gage height, 22.53 ft or 6.867 m); minimum, 5.8 ft³/s (0.16 m³/s) Sept. 12-14.

Period of record: Maximum discharge, 53,500 ft³/s (1,520 m³/s) Sept. 13, 1974 (gage height, 36.05 ft or 10.988 m); no flow Aug. 5-7, 22, Sept. 2-16, 1964.

Maximum stage since at least 1860, 40 ft (12.2 m) in June 1940; flood in July 1936 reached a stage of 39 ft (11.9 m), from information by local residents and Southern Pacific Railroad Co.

REMARKS.--Records good. No known diversion above station.

REVISIONS.--WSP 2123: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	24	34	30	27	25	23	87	1910	27	18	9.3
2	17	25	31	30	27	25	23	57	4060	27	17	12
3	16	33	29	29	27	25	22	48	743	27	16	11
4	16	30	30	28	27	25	23	43	172	28	14	11
5	17	27	30	28	27	25	456	40	122	32	14	9.3
6	17	26	30	29	28	28	330	42	96	36	14	9.2
7	17	26	30	30	28	39	91	203	80	30	13	9.2
8	17	26	34	29	27	71	301	352	71	30	12	7.8
9	14	26	31	28	28	54	189	187	62	33	12	7.1
10	18	25	30	29	28	38	65	94	56	36	15	6.6
11	14	24	30	30	27	32	47	71	52	35	12	6.3
12	17	24	30	30	27	31	41	58	50	32	11	6.2
13	17	23	30	30	27	29	38	828	48	30	11	6.1
14	17	23	30	29	27	29	36	1050	44	30	11	6.1
15	17	24	30	28	27	29	35	164	43	32	10	6.4
16	17	25	30	28	26	30	444	102	42	37	11	7.4
17	17	32	30	28	27	28	578	77	40	37	12	7.3
18	17	31	30	28	27	28	182	62	39	34	15	6.7
19	17	29	30	28	26	28	1430	55	38	29	19	7.5
20	17	30	30	32	26	28	485	142	39	27	13	12
21	14	29	30	41	27	27	384	297	35	26	11	16
22	18	29	30	35	28	26	137	85	34	26	9.7	12
23	19	27	30	31	20	26	89	57	33	26	9.0	10
24	18	27	36	30	25	26	72	50	32	42	8.5	8.8
25	20	27	32	30	25	27	72	47	32	115	8.3	8.5
26	43	29	32	28	25	27	64	492	33	60	7.7	8.5
27	40	29	31	27	25	26	53	410	32	30	7.6	13
28	30	30	31	27	25	25	48	163	30	24	7.7	67
29	26	30	31	27	25	25	169	82	30	23	16	58
30	25	31	30	28	---	25	231	60	28	21	12	29
31	24	---	30	28	---	24	---	52	---	19	9.1	---
TOTAL	623	821	952	913	772	931	6158	6057	8126	1041	376.6	395.3
MEAN	20.1	27.4	30.7	29.5	26.6	30.0	205	195	271	33.6	12.1	13.2
MAX	43	33	36	41	28	71	1430	1050	4060	115	19	67
MIN	14	23	29	27	25	24	22	40	28	19	7.6	6.1
CFSM	.74	.08	.09	.09	.04	.09	.62	.59	.82	.10	.04	.04
IN.	.07	.09	.11	.10	.09	.10	.69	.68	.91	.12	.04	.04
AC-FT	1240	1630	1890	1810	1530	1850	12210	12010	16120	2060	747	784
CAL YR 1975	TOTAL	62962.0	MEAN	172	MAX	12600	MIN	15	CFSM	.52	IN	7.05
WTR YR 1976	TOTAL	27165.9	MEAN	74.2	MAX	4060	MIN	6.1	CFSM	.22	IN	3.04
AC-FT											124900	53880

PEAK DISCHARGE (BASE, 2,500 FT³/S).--June 2 (0200) 4,510 ft³/s (22.53 ft).

LAVACA RIVER BASIN

227

08164495 Sandy Creek near Ganado, Tex.
(Reconnaissance partial-record station)

LOCATION.--Lat 29°01'41", Long 96°33'16", Jackson County, 300 ft (91 m) upstream from Navidad River and 2.6 miles (4.2 km) west of Ganado.

DRAINAGE AREA.--467 mi² (1,210 km²).

PERIOD OF RECORD.--Periodic discharge measurements: 1950, November 1953 to current year (in conjunction with station 08164500, Navidad River near Ganado). Periodic water-quality data: October 1975 to current year.

DISCHARGE AND WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)
OCT 16...	1545	119	466	7.2	25.5	55	7.3	88	4.3	89	0
NOV 12...	1430	40	633	7.9	18.5	6	10.7	114	2.8	160	0
DEC 24...	1005	3.6	367	7.3	14.0	60	9.3	89	3.1	120	0
FEB 05...	1545	18	405	7.3	22.0	4	9.5	108	2.0	130	0
MAR 17...	1115	06	376	7.2	21.5	3	9.9	111	2.1	140	0
MAY 04...	1445	90	207	7.4	25.5	55	7.2	87	4.7	61	8
JUN 15...	1945	9.9	428	7.6	28.0	10	7.6	97	4.9	100	0
JUL 23...	1210	185	320	7.5	29.0	50	7.2	95	1.4	85	6
SEP 08...	1325	146	579	7.7	31.0	30	7.6	103	3.7	160	0

DATE	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	BROMIDE (BR) (MG/L)
OCT 16...	25	6.5	58	2.7	7.0	119	0	12	79	.3	--
NOV 12...	46	11	71	2.4	6.5	208	0	9.6	90	.4	.5
DEC 24...	36	6.2	31	1.3	2.9	147	0	8.8	37	.3	--
FEB 05...	42	7.0	31	1.2	3.5	168	0	13	37	.2	--
MAR 17...	44	6.5	28	1.0	2.8	172	0	6.8	33	.2	.2
MAY 04...	18	3.8	17	1.0	4.3	64	0	11	25	.3	--
JUN 15...	29	6.7	48	2.1	2.4	136	0	17	48	.4	--
JUL 23...	23	6.6	29	1.4	2.7	96	0	9.9	49	.4	.3
SEP 08...	42	14	48	1.6	11	202	0	8.0	80	.5	--

LAVACA RIVER BASIN

08164495 Sandy Creek near Ganado, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	IOOIDE (I) (MG/L)	DIS- SOLVED SILICA (SI02) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L)	TOTAL NON- FILT- RABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
OCT 16...	--	23	269	153	.09	.00	.02	1.4	.26	--
NOV 12...	.03	30	369	16	.00	.00	.03	.88	.18	11
DEC 24...	--	16	211	14	.17	.00	.13	.41	.10	--
FEB 05...	--	17	233	35	.00	.00	.06	.00	.07	7.2
MAR 17...	.01	21	228	6	.00	.01	.02	.33	.05	4.2
MAY 04...	--	13	124	82	.24	.03	.02	1.8	.10	15
JUN 15...	--	14	233	20	.00	.00	.02	.76	.07	8.5
JUL 23...	.01	22	191	110	.10	.01	.01	.90	.12	8.2
SEP 08...	--	55	358	70	.05	.00	.00	1.6	.29	12

DATE	TIME	DIS- SOLVED ALUM- INUM (AL) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)
NOV. 12...	1430	80	5	140	0	0	0	2
MAR. 17...	1115	20	1	50	0	0	0	2
JULY 23...	1210	10	3	110	0	0	0	3

DATE	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)
NOV. 12...	330	0	6	160	.3	0	440	10
MAR. 17...	150	0	0	120	.1	0	200	0
JULY 23...	80	0	10	0	.0	0	260	10

08164495 Sandy Creek near Ganado, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL PCB (UG/L)	PCH IN BOTTOM MA- TERIAL (UG/KG)	POLY- CHLO- RINATED NAPH- THA- LENES (UG/L)	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL CHLOR- DANE (UG/L)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDD (UG/L)	DDD IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDE (UG/L)	DDE IN BOTTOM MA- TERIAL (UG/KG)
NOV. 12...	1430	.0	0	.00	.00	.0	.0	0	.00	.0	.00	.0
MAR. 17...	1115	.0	0	.00	.00	.0	.0	0	.00	.0	.00	.0
JULY 23...	1210	.0	--	.00	.00	--	.0	--	.00	--	.00	--
DATE	TOTAL DDT (UG/L)	DDT IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDHRIN (UG/L)	DI- ELDHRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ETHION (UG/L)	TOTAL HEPTA- CHLOR (UG/L)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG)
NOV. 12...	.00	.0	.00	.00	.0	.00	.0	.00	.00	.0	.00	.0
MAR. 17...	.00	.0	.00	.00	.0	.00	.0	.00	.00	.0	.00	.0
JULY 23...	.00	--	.00	.00	--	.00	--	.00	.00	--	.00	--
DATE	TOTAL LINDANE (UG/L)	LINDANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL TOX- APHENE (UG/L)	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
NOV. 12...	.00	.0	.00	.00	.00	.00	0	0	.00	.01	.00	.00
MAR. 17...	.00	.0	.00	.00	.00	.00	0	0	.00	.00	.00	.00
JULY 23...	.00	--	.00	.00	.00	.00	0	--	.00	.00	.00	.00

LAVACA RIVER BASIN

08164500 Navidad River near Ganado, Tex.
(National stream-quality accounting network)

LOCATION.--Lat 29°01'32", long 96°33'08", Jackson County, at downstream side near center of upstream bridge of two bridges on U.S. Highway 59, 170 ft (52 m) upstream from Texas and New Orleans Railroad Co. bridge, 0.2 mile (0.3 km) downstream from Sandy Creek, and 2.5 miles (4.0 km) southwest of Ganado.

DRAINAGE AREA.--1,062 mi² (2,751 km²).

PERIOD OF RECORD.--Discharge: May 1939 to current year.

Water quality: Chemical analyses: October 1959 to current year. Chemical, biochemical, and pesticide analyses: January 1968 to current year. Water temperatures: October 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is 13.62 ft (4.151 m) above mean sea level (levels by Corps of Engineers). Prior to May 7, 1958, nonrecording gage at site 70 ft (21 m) downstream at same datum. Mar. 7, 1958, to Mar. 22, 1961, nonrecording gages at same site and datum.

AVERAGE DISCHARGE.--37 years, 553 ft³/s (15.66 m³/s), 400,600 acre-ft/yr (494 hm³/yr).

EXTREMES.--Discharge: Current year: Maximum discharge, 6,620 ft³/s (187 m³/s) June 3 (gage height, 24.81 ft or 7.562 m); minimum, 10 ft³/s (0.28 m³/s) Aug. 9.

Period of record: Maximum discharge, 88,000 ft³/s (2,490 m³/s) June 15, 1973 (gage height, 39.8 ft or 12.13 m); no flow at times in 1955-56, 1967.

Historic: Maximum stage since at least 1876, 39.8 ft (12.13 m) May 27, 1936, and June 15, 1973, from information by local resident, Texas and New Orleans Railroad Co., and Texas Highway Department. Discharge, 94,000 ft³/s (2,660 m³/s) May 27, 1936, from rating curve extended above 57,000 ft³/s (1,610 m³/s).

Water quality: Current year: Maximum daily specific conductance, 975 micromhos Oct. 23; minimum daily, 139 micromhos June 3.

Period of record: Maximum daily specific conductance, 1,350 micromhos Oct. 26, 28, 1963; minimum daily, 44 micromhos Mar. 24, 25, 1973. Maximum water temperatures (1959-73), 37.0°C July 21, 27, 28, 1962, Aug. 19, 1969; minimum, freezing point Jan. 9-11, 1962, Feb. 22, 1963.

REMARKS.--Discharge records good. Numerous diversions for irrigation above station. Much of low flow during the April to September irrigation season comes from Sandy Creek; see station 08164495 for discharge measurements during the current year. This low flow is drainage from ricefields irrigated by water originally diverted from the Colorado River.

REVISIONS.--WRD Texas 1973: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	167	80	39	112	41	36	34	2000	642	173	37	122
2	164	72	40	89	42	36	28	1100	4590	146	28	131
3	172	67	43	73	42	35	32	607	6400	167	27	150
4	170	71	43	62	41	35	35	371	5740	212	33	153
5	156	68	40	54	41	34	38	272	2670	265	43	167
6	133	62	40	52	40	32	124	214	892	336	32	155
7	123	52	39	48	39	34	694	188	496	533	27	137
8	128	48	40	44	40	42	616	2330	329	647	24	124
9	133	46	40	44	42	58	619	2540	247	915	20	109
10	132	44	42	44	42	80	642	1200	199	1590	20	99
11	130	42	43	42	41	70	231	625	167	1850	19	85
12	128	41	42	41	42	56	138	496	147	1350	19	77
13	114	38	41	42	42	46	106	883	130	906	18	66
14	110	37	41	42	41	43	89	2320	119	1130	17	43
15	155	37	41	40	41	42	78	2430	113	1470	17	37
16	205	37	42	40	40	41	70	827	118	1240	23	78
17	133	38	45	39	40	38	145	350	119	992	57	104
18	102	40	43	37	40	41	906	195	107	810	90	89
19	85	44	42	38	39	40	618	138	80	475	90	90
20	75	46	42	40	40	39	1870	109	73	264	80	103
21	70	43	42	43	39	36	2810	446	79	189	69	138
22	70	42	41	43	37	33	1530	1210	78	145	64	156
23	67	40	41	54	36	34	742	501	59	167	55	150
24	65	41	1880	54	38	34	421	252	62	146	46	142
25	68	40	6190	53	38	34	265	164	68	124	37	135
26	254	39	4120	49	36	37	255	451	73	325	29	125
27	573	38	1960	47	36	33	322	2270	84	212	27	346
28	450	39	815	45	36	32	318	1800	135	106	23	476
29	226	41	460	42	36	32	682	719	167	68	29	699
30	132	40	245	42	---	41	2830	360	174	58	39	756
31	99	---	150	42	---	37	---	206	---	42	90	---
TOTAL	4789	1413	16772	1537	1148	1261	17288	27574	24346	17053	1229	5242
MEAN	154	47.1	541	49.6	39.6	40.7	576	889	812	550	39.6	175
MAX	573	80	6190	112	42	80	2830	2540	6400	1850	90	756
MIN	65	37	39	37	36	32	28	109	59	42	17	37
AC-FT	9500	2800	33270	3050	2280	2500	34290	54690	48290	33820	2440	10400
CAL YR 1975	TOTAL	212826	MEAN 583	MAX 12800	MIN 37	AC-FT 422100						
WTR YR 1976	TOTAL	119652	MEAN 327	MAX 6400	MIN 17	AC-FT 237300						

PEAK DISCHARGE (BASE, 5,500 FT³/S).--Dec. 25 (0600) 6,600 ft³/s (24.79 ft); June 3 (1300) 6,620 ft³/s (24.81 ft).

LAVACA RIVER BASIN

08164500 Navidad River near Ganado, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)
OCT.										
23...	0900	43	975	7.9	21.0	20	15	8.0	89	1.3
NOV.										
20...	0945	47	735	8.6	16.0	10	7	8.6	86	1.0
DEC.										
10...	1600	45	755	8.0	15.5	7	5	10.6	105	1.0
JAN.										
22...	1500	42	716	8.0	14.0	12	3	10.3	99	.6
FEB.										
25...	1605	39	716	8.0	18.5	15	4	11.4	121	1.0
MAR.										
25...	1335	32	739	8.1	23.5	23	15	8.8	102	1.4
APR.										
29...	1045	340	361	7.8	20.5	120	160	7.6	84	6.8
MAY										
27...	1450	2350	209	7.2	25.5	220	140	6.1	73	5.9
JUNE										
24...	0915	58	651	8.0	27.0	45	15	6.9	87	2.0
JULY										
22...	1030	180	413	7.8	27.0	100	30	7.0	89	1.3
AUG.										
19...	1000	60	658	7.6	27.0	190	20	5.9	75	8.6
SEP.										
23...	1345	180	562	7.8	25.0	220	25	7.8	96	2.6
DATE	IMME- DIATE COLI- FORM (COL. PER 100 ML)	FECAL COLI- FORM (COL. PER 100 ML)	STREP- TOCOCCI (COL- ONIES PER 100 ML)	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)
OCT.										
23...	900	140	520	260	8	84	11	110	3.0	5.0
NOV.										
20...	900	150	240	270	0	97	5.6	55	1.5	2.6
DEC.										
10...	440	110	240	300	24	110	5.6	56	1.4	2.5
JAN.										
22...	40	25	32	260	15	94	5.3	54	1.5	2.1
FEB.										
25...	46	42	60	250	22	92	6.0	59	1.6	2.2
MAR.										
25...	360	130	120	260	18	94	6.0	60	1.6	2.4
APR.										
29...	17000	14000	160000	120	6	42	3.5	26	1.0	4.5
MAY										
27...	4700	2400	3700	67	3	22	2.9	16	.9	2.6
JUNE										
24...	2300	290	820	230	0	83	6.1	55	1.6	2.6
JULY										
22...	1300	150	600	110	0	34	6.6	38	1.6	2.8
AUG.										
19...	30000	1000	14000	160	0	45	12	64	2.2	16
SEP.										
23...	1200	180	440	160	7	41	14	54	1.9	5.8

LAVACA RIVER BASIN

08164500 Navidad River near Ganado, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	BICARBONATE (HCO ₃) (MG/L)	CARBONATE (CO ₃) (MG/L)	DISSOLVED SULFATE (SO ₄) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SiO ₂) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NON-FILTERABLE RESIDUE (MG/L)	VOL. NON-FILTERABLE RESIDUE (MG/L)
OCT. 23...	301	0	13	160	--	38	607	569	22	1
NOV. 20...	330	0	15	77	.6	23	442	438	9	0
DEC. 10...	334	0	17	78	.4	22	398	456	14	0
JAN. 22...	295	0	17	76	.3	16	424	410	6	0
FEB. 25...	284	0	16	84	.5	20	416	420	10	3
MAR. 25...	294	0	19	85	.5	22	434	434	40	10
APR. 29...	138	0	14	37	.4	14	236	210	400	60
MAY 27...	78	0	7.2	19	.1	10	126	118	284	18
JUNE 24...	293	0	15	72	.4	23	414	402	24	1
JULY 22...	144	0	9.8	56	.3	25	262	244	58	5
AUG. 19...	207	0	19	99	.5	44	432	403	55	9
SEP. 23...	187	0	12	80	.4	42	319	341	71	8

DATE	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT CHARGE (T/DAY)	SUSPENDED SEDIMENT % FINER THAN .062 MM
OCT. 23...	.01	.00	.04	.52	.10	7.8	21	2.4	84
NOV. 20...	.01	.00	.01	.28	.06	1.8	15	1.9	69
DEC. 10...	.04	.01	.02	.34	.04	10	8	.97	79
JAN. 22...	.00	.00	.00	.33	.03	4.4	1	.11	33
FEB. 25...	.06	.00	.01	.16	.01	4.0	6	.63	88
MAR. 25...	.15	.01	.41	1.4	.09	10	54	4.7	64
APR. 29...	.41	.03	.12	1.4	.32	14	238	218	98
MAY 27...	.17	.02	.15	1.3	.10	12	285	1810	93
JUNE 24...	.07	.01	.07	.60	.07	7.2	30	4.7	84
JULY 22...	.10	.01	.03	.69	.09	7.3	56	27	95
AUG. 19...	.15	.03	.15	2.5	.26	2.5	52	8.4	97
SEP. 23...	.06	.01	.02	1.3	.16	12	81	39	80

08164500 Navidad River near Ganado, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	DIS-SOLVED ALUMINUM (AL) (UG/L)	TOTAL ARSENIC (AS) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	TOTAL CADMIUM (CD) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	TOTAL CHROMIUM (CR) (UG/L)	DIS-SOLVED CHROMIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)
FEB. 25...	1605	40	3	3	100	0	0	20	0	0
APR. 29...	1045	30	7	3	70	0	0	0	0	4
JUNE 24...	0915	30	5	4	40	0	0	10	0	0
AUG. 19...	1000	30	5	5	230	0	0	30	11	0

DATE	DIS-SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	TOTAL MANGANESE (MN) (UG/L)
FEB. 25...	0	5	0	200	10	3	0	0	20
APR. 29...	2	14	3	7200	20	14	0	0	220
JUNE 24...	0	5	0	610	0	0	0	0	40
AUG. 19...	0	5	3	1100	330	4	2	10	100

DATE	DIS-SOLVED MANGANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	TOTAL SELENIUM (SE) (UG/L)	DIS-SOLVED SELENIUM (SE) (UG/L)	DIS-SOLVED STRONTIUM (SR) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
FEB. 25...	10	.1	.1	0	0	0	360	20	0
APR. 29...	0	.3	.3	0	0	0	190	40	10
JUNE 24...	20	.4	.4	0	0	0	450	30	0
AUG. 19...	20	.4	.4	0	0	0	360	20	20

DATE	TIME	TOTAL PCB (UG/L)	PCR IN BOTTOM MATERIAL (UG/KG)	POLY-CHLORINATED NAPHTHALENES (UG/L)	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL CHLORDANE (UG/L)	CHLORDANE IN BOTTOM MATERIAL (UG/KG)	TOTAL DDT (UG/L)	DDT IN BOTTOM MATERIAL (UG/KG)	TOTAL DDE (UG/L)	DDE IN BOTTOM MATERIAL (UG/KG)
JAN. 22...	1500	.0	0	--	.00	.0	.0	0	.00	.0	.00	.0
MAR. 25...	1335	.0	0	.00	.00	.0	.0	0	.00	.0	.00	.0
MAY 27...	1450	.0	0	.00	.00	.0	.0	0	.00	.0	.00	.0
JULY 22...	1030	.0	0	.00	.00	.0	.0	0	.00	.0	.00	.0

DATE	TOTAL DDT (UG/L)	DDT IN BOTTOM MATERIAL (UG/KG)	TOTAL DIAZINON (UG/L)	TOTAL DIELDRIN (UG/L)	DIELDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL ETHION (UG/L)	TOTAL HEPTACHLOR (UG/L)	HEPTACHLOR IN BOTTOM MATERIAL (UG/KG)	TOTAL HEPTACHLOR EPOXIDE (UG/L)	HEPTACHLOR EPOXIDE IN BOTTOM MATERIAL (UG/KG)
JAN. 22...	.00	.0	.00	.00	.0	.00	.0	.00	.00	.0	.00	.0
MAR. 25...	.00	.0	.00	.00	.0	.00	.0	.00	.00	.0	.00	.0
MAY 27...	.00	.0	.00	.00	.0	.00	.0	.00	.00	.0	.00	.0
JULY 22...	.00	.0	.00	.00	.1	.00	.0	.00	.00	.0	.00	.0

DATE	TOTAL LINDANE (UG/L)	LINDANE IN BOTTOM MATERIAL (UG/KG)	TOTAL MALATHION (UG/L)	TOTAL METHYL PARATHION (UG/L)	TOTAL METHYL TRITHION (UG/L)	TOTAL PARATHION (UG/L)	TOTAL TOXAPHENE (UG/L)	TOXAPHENE IN BOTTOM MATERIAL (UG/KG)	TOTAL TRIETHION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
JAN. 22...	.00	.0	.00	.00	.00	.00	0	0	.00	.00	.00	.00
MAR. 25...	.00	.0	.00	.00	.00	.00	0	0	.00	.00	.00	.00
MAY 27...	.00	.0	--	.00	.00	.00	0	0	.00	.00	.00	.00
JULY 22...	.00	.0	.00	.00	.00	.00	0	0	.00	.00	.00	.00

LAVACA RIVER BASIN

08164500 Navidad River near Ganado, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PERIPHYTON

Date	Length of exposure (days)	Biomass (g/m ²)		Chlorophyll ^a (mg/m ²)	Chlorophyll ^b (mg/m ²)	Biomass pigment ratio	Sampling method
		Dry weight	Ash weight				
JULY 22	28	18.0	10.9	3.07	0.226	2300	Polyethylene strip
OCT. 23, 1975 0900 HOURS				DEC. 10, 1975 1600 HOURS			
PHYTOPLANKTON 400 CELLS/ML				PHYTOPLANKTON 1,900 CELLS/ML			
_ORGANISM__NAME_____		CELLS/ML	PER_CENT	_ORGANISM__NAME_____		CELLS/ML	PER_CENT
CHLOROPHYTA				CHLOROPHYTA			
..CHLOROPHYCEAE				..CHLOROPHYCEAE			
...CHLOROCOCCALES				..VOLVOCALES			
...OCCYSTACEAE				...CHLAMYDOMONADACEAE			
....ANKISTRODESMUS		130	33	...CHLAMYDOMONAS			0
..VOLVOCALES				CHRYCOPHYTA			
...CHLAMYDOMONADACEAE				..BACILLARIOPHYCEAE			
...CHLAMYDOMONAS		33	8	..PENNALES			
CHRYCOPHYTA				...GOMPHONEMACEAE			
..BACILLARIOPHYCEAE				....GOMPHONEMA		86	5
..PENNALES				...NAVICULACEAE			
...NAVICULACEAE				...NAVICULA			0
...NAVICULA		66	17	...NITZSCHIA			
...NITZSCHIA				...NITZSCHIA		1,800	95
...NITZSCHIA		170	42	...SURIELLA			0
				...SURIELLA			0
				EUGLENOPHYTA			
				..EUGLENOPHYCEAE			
				...EUGLENALES			
				...EUGLENACEAE			
				...PHACUS			0
NOV. 20, 1975 0945 HOURS				JAN. 22, 1976 1500 HOURS			
PHYTOPLANKTON 2,900 CELLS/ML				PHYTOPLANKTON 560 CELLS/ML			
_ORGANISM__NAME_____		CELLS/ML	PER_CENT	_ORGANISM__NAME_____		CELLS/ML	PER_CENT
CHLOROPHYTA				CHRYCOPHYTA			
..CHLOROPHYCEAE				..BACILLARIOPHYCEAE			
...CHLOROCOCCALES				..CENTRALES			
...OCCYSTACEAE				...COSCIDINODISCACEAE			
....ANKISTRODESMUS		99	3	...CYCLOTILLA		11	2
..VOLVOCALES				..PENNALES			
...CHLAMYDOMONADACEAE				...NAVICULACEAE			
...CHLAMYDOMONAS		300	10	...NAVICULA		33	6
...VOLVOCAEAE				...NITZSCHIA			
...PANDORINA		530	18	...NITZSCHIA		120	22
...ZYGNEMATALES				CYANOPHYTA			
...DESMIDIACEAE				..MYXOPHYCEAE			
...CLOSTERIUM			0	...OSCILLATORIALES			
CHRYCOPHYTA				...OSCILLATORIAEAE			
..BACILLARIOPHYCEAE				...OSCILLATORIA		350	63
..CENTRALES				EUGLENOPHYTA			
...COSCIDINODISCACEAE				..CRYPTOPHYCEAE			
...CYCLOTILLA		66	2	...CRYPTOMONIDALES			
..PENNALES				...CRYPTOMONODACEAE			
...NAVICULACEAE				...CRYPTOMONAS		33	6
...NAVICULA		130	5	..EUGLENOPHYCEAE			
...NITZSCHIA		730	25	...EUGLENALES			
...NITZSCHIA				...EUGLENACEAE			
CYANOPHYTA				...EUGLENA		11	2
..MYXOPHYCEAE							
...OSCILLATORIALES							
...OSCILLATORIAEAE							
...OSCILLATORIA		1,000	36				
EUGLENOPHYTA							
..EUGLENOPHYCEAE							
...EUGLENALES							
...EUGLENACEAE							
...EUGLENA			0				

08164500 Navidad River near Ganado, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

FEB. 25, 1976 1605 HOURS

PHYTOPLANKTON 1,600 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..OCCYSTACEAE		
..ANKISTRODESMUS	250	15
CHRYSOPLANKTON		
..BACILLARIOPHYCEAE		
..PENNIALES		
..ACHNANTHACEAE		
..ACHNANTHES		0
..NAVICULACEAE		
..NAVICULA	190	12
..NITZSCHIA		
..NITZSCHIA	1,100	69
EUGLENOPLANKTON		
..CRYPTOPHYCEAE		
..CRYPTOMONADALES		
..CRYPTOMONADACEAE		
..CRYPTOMONAS	63	4

MAR. 25, 1976 1335 HOURS

PHYTOPLANKTON 6,600 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..COELASTRACEAE		
..COELASTRUM		0
..OCCYSTACEAE		
..ANKISTRODESMUS	580	9
..SCENEDESMACEAE		
..SCENEDESMUS	580	9
..VOLVOCALES		
..CHLAMYDOMONADACEAE		
..CHLAMYDOMONAS	290	4
..VOLVOCAEAE		
..PANDORINA		0
..ZYGONEMATALES		
..DESMIDIACEAE		
..CLOSTERIUM		0
CHRYSOPLANKTON		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCAEAE		
..CYCLOTILLA	72	1
..PENNIALES		
..ACHNANTHACEAE		
..COCCONEIS		0
..CYMBELLACEAE		0
..AMPHORA		0
..RHODALGIA		0
..NAVICULACEAE		
..NAVICULA	140	2
..PINNULARIA		0
..NITZSCHIAEAE		
..NITZSCHIA		0
..NITZSCHIA		29
..SURIRELLACEAE		
..CYMATOPLEURA		0
..SURIRELLA		0
..ACHNANTHACEAE		
..RHODICOSPHEA		0
CYANOPHYTA		
..MYXOPHYCEAE		
..CHROOCOCCALES		
..CHROOCOCCACEAE		
..AGMENELLUM	2,300	35
..ANACYSTIS	290	4
EUGLENOPLANKTON		
..CRYPTOPHYCEAE		
..CRYPTOMONADALES		
..CRYPTOMONADACEAE		
..CRYPTOMONAS	360	5
..EUGLENOPLANKTON		
..EUGLENALES		
..EUGLENAEAE		
..EUGLENA		0
..PHACUS	72	1

APR. 29, 1976 1045 HOURS

PHYTOPLANKTON 5,500 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..CHLORACIACEAE		
..SCHROEDERIA	140	3
..MICHAELIACEAE		
..MICHAELIACEAE	580	11
..OCCYSTACEAE		
..ANKISTRODESMUS	430	8
CHRYSOPLANKTON		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCAEAE		
..MELOSIPA	290	5
..PENNIALES		
..CYMBELLACEAE		
..AMPHORA	140	3
..NAVICULACEAE		
..CYMATOPLEURA	140	3
..NAVICULA	290	5
..PINNULARIA	140	3
..NITZSCHIAEAE		
..NITZSCHIA		0
..NITZSCHIA	2,200	39
CYANOPHYTA		
..MYXOPHYCEAE		
..CHROOCOCCALES		
..CHROOCOCCACEAE		
..ANACYSTIS	1,200	21

MAY 27, 1976 1450 HOURS

PHYTOPLANKTON 4,700 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..COELASTRACEAE		
..COELASTRUM	430	9
..OCCYSTACEAE		
..ANKISTRODESMUS	160	3
..DICTYOSPHAERIUM	540	11
..KIRCHNERIELLA	110	2
..TETRAEDRON	27	1
..TREUBARIA	27	1
..SCENEDESMACEAE		
..SCENEDESMUS	320	7
..TETRASTRUM	110	2
CHRYSOPLANKTON		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCAEAE		
..CYCLOTILLA	81	2
..MELOSIPA	81	2
..PENNIALES		
..ACHNANTHACEAE		
..ACHNANTHES	54	1
..NAVICULACEAE		
..NAVICULA	240	5
..NITZSCHIAEAE		
..NITZSCHIA		0
..NITZSCHIA	1,000	21
..CHRYSOPLANKTON		
..CHRYSONOMADALES		
..OCHROMONADACEAE		
..OCHROMONAS	27	1
CYANOPHYTA		
..MYXOPHYCEAE		
..CHROOCOCCALES		
..CHROOCOCCACEAE		
..ANACYSTIS	320	7
..OSCILLATORIALES		
..NOSTOCACEAE		
..ANABAENA	570	12
..OSCILLATORIAEAE		
..LYNGBYA	540	11
EUGLENOPLANKTON		
..EUGLENOPLANKTON		
..EUGLENALES		
..EUGLENAEAE		
..EUGLENA	27	1
..PHACUS	27	1

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

JUNE 24, 1976 0915 HOURS

PHYTOPLANKTON 18,000 CELLS/ML

ORGANISM__NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...COELASTRUM	100	1
...HYDRODICTYACEAE		
...PEDIASTRUM		0
...OCCYSTACEAE		
...ANKISTRODES MUS	5,500	30
...SCENEDESMACEAE		
...ACTINASTRUM		0
...CRUCIGENIA	2,000	11
...SCENEDESMUS	5,200	28
...VOLVOCALES		
...CHLAMYDOMONADACEAE		
...CARTERIA	100	1
...PHACOTACEAE		
...PHACOTUS	100	1
...ZYGNE MATALES		
...DESMIDIACEAE		
...CLOSTERIUM	210	1
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCACEAE		
...CYCLOTELLA	730	4
..PENNALES		
...NITZSCHIA		
...NITZSCHIA	410	2
CYANOPHYTA		
..MYXOPHYCEAE		
..CHROOCOCCALES		
..CHROOCOCCACEAE		
...AGMENELLUM	3,300	18
...ANACYSTIS	410	2
EUGLENOPHYTA		
..CRYPTOPHYCEAE		
..CRYPTOMONIALES		
..CRYPTOMONODACEAE		
...CRYPTOMONAS	210	1

JULY 22, 1976 1030 HOURS

PHYTOPLANKTON 8,100 CELLS/ML

ORGANISM__NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...OCCYSTACEAE		
...ANKISTRODES MUS	960	12
...KIRCHNERIELLA	200	2
...SCENEDESMACEAE		
...SCENEDESMUS	810	10
...VOLVOCALES		
...CHLAMYDOMONADACEAE		
...CHLAMYDOMONAS		0
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCACEAE		
...CYCLOTELLA	410	5
..PENNALES		
...CYMBELLACEAE		
...CYMBELLA	51	1
...NAVICULACEAE		
...NAVICULA	100	1
...PINNULARIA	51	1
...NITZSCHIA		
...NITZSCHIA	460	6
CYANOPHYTA		
..MYXOPHYCEAE		
..CHROOCOCCALES		
..CHROOCOCCACEAE		
...AGMENELLUM	4,900	60
...ANACYSTIS	150	2
..OSCILLATORIALES		
...RIVULARIACEAE		
...RAPHIDIOPSIS	51	1
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
..EUGLENALS		
..EUGLENACEAE		
...PHACUS		0

AUG. 19, 1976 1000 HOURS

PHYTOPLANKTON 69,000 CELLS/ML

ORGANISM__NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...MICRACTINIACEAE		
...MICRACTINIUM	3,500	5
...OCCYSTACEAE		
...ANKISTRODES MUS	620	1
...SELENASTRUM	820	1
...SCENEDESMACEAE		
...CRUCIGENIA		0
...SCENEDESMUS	2,100	3
...VOLVOCALES		
...CHLAMYDOMONADACEAE		
...CHLAMYDOMONAS		0
...PHACOTACEAE		
...PHACOTUS	620	1
...PTEROMONAS		0
...VOLVOCALES		
...GONIUM		0
...ZYGNE MATALES		
...DESMIDIACEAE		
...EUASTRUM		0
..CHLOROCOCCALES		
..OCCYSTACEAE		
...GLOEOACTINIUM	5,200	7
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCACEAE		
...CYCLOTELLA	3,300	5
..PENNALES		
...CYMBELLACEAE		
...AMPHORA		0
...RHOPALODIA		0
...NAVICULACEAE		
...CALONEIS		0
...DIPLOEIS		0
...GYROSIGMA		0
...NITZSCHIA		
...NITZSCHIA		0
...NITZSCHIA	6,400	9
CYANOPHYTA		
..MYXOPHYCEAE		
..CHROOCOCCALES		
..CHROOCOCCACEAE		
...AGMENELLUM	17,000	25
..OSCILLATORIALES		
...NOSTOCACEAE		
...ANABAENA	3,100	4
...OSCILLATORIACEAE		
...OSCILLATORIA	20,000	28
...RIVULARIACEAE		
...RAPHIDIOPSIS	4,500	7
EUGLENOPHYTA		
..CRYPTOPHYCEAE		
..CRYPTOMONIALES		
..CRYPTOMONODACEAE		
...CRYPTOMONAS	620	1
..EUGLENOPHYCEAE		
..EUGLENALS		
..EUGLENACEAE		
...EUGLENA		0
...PHACUS		0
...TRACHELOMONAS		0

08164500 Navidad River near Ganado, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

SEP. 23, 1976 1345 HOURS

PHYTOPLANKTON 5,000 CELLS/ML

ORGANISM NAME	CELLS/ML	PER CENT
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
...CENTRALES		
...COSCINODISCEAE		
...CYCLOTELLA	2,900	57
...PENNALES		
...ACHNANTHACEAE		
...COCCONEIS	80	2
...NAVICULACEAE		
...GYROSIGMA	240	5
...NAVICULA	400	8
...NITZSCHIA		
...NITZSCHIA	640	13
CYANOPHYTA		
..MYXOPHYCEAE		
...CHROOCOCCALES		
...CHROOCOCCACEAE		
...ANACYSTIS	160	3
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
...EUGLENALES		
...EUGLENACEAE		
....TRACHELOMONAS	640	13

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

MONTH	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA+MG) (MG/L)
OCT. 1975.....	4789	581	350	4480	64	830	15	199	210
NOV. 1975.....	1413	714	430	1630	80	305	19	71	260
DEC. 1975.....	16772	243	140	6570	25	1110	7	313	86
JAN. 1976.....	1537	615	370	1520	68	283	16	68	220
FEB. 1976.....	1112	665	400	1190	74	222	18	52	240
MAR. 1976.....	1261	721	430	1470	81	275	19	64	260
APR. 1976.....	17288	271	160	7590	28	1300	8	358	96
MAY 1976.....	27574	230	140	10300	23	1720	7	492	81
JUNE 1976.....	24346	234	140	9240	24	1540	7	451	82
JULY 1976.....	17053	364	220	10000	19	1780	10	466	130
AUG. 1976.....	1224	662	400	1310	74	245	17	58	240
SEPT 1976.....	5242	497	300	4220	54	770	13	190	180
TOTAL	119616	**	**	59500	**	10400	**	2780	**
WTD.AVG.	327.71	308	180	**	32	**	8.7	**	110

LAVACA RIVER BASIN

08164500 Navidad River near Ganado, Tex.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C) • WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	580	699	564	298	661	747	722	160	240	558	500	641
2	585	690	625	423	702	649	730	200	150	571	594	641
3	578	678	654	510	610	614	726	230	139	577	665	612
4	579	678	664	600	652	692	720	300	230	570	743	610
5	585	653	620	607	709	680	710	178	183	575	628	608
6	590	712	645	629	597	721	400	171	320	580	665	604
7	592	735	662	663	631	700	333	173	404	465	670	601
8	591	648	779	667	636	695	360	171	344	571	620	579
9	590	700	586	640	645	692	340	175	487	395	571	607
10	590	756	675	677	614	680	328	269	647	302	530	590
11	595	734	620	667	573	649	320	262	493	280	633	620
12	600	641	753	640	650	680	335	217	520	375	628	630
13	610	697	679	634	643	712	354	431	570	392	571	641
14	612	777	640	623	708	740	402	176	661	309	646	692
15	580	777	606	606	712	765	466	220	487	341	630	594
16	500	735	630	697	715	765	460	260	645	296	616	645
17	540	636	651	632	688	633	400	286	667	310	760	512
18	590	700	660	660	607	721	320	143	667	320	665	535
19	650	735	666	690	634	783	351	429	647	339	658	560
20	725	735	672	697	611	780	250	509	649	363	600	588
21	800	730	678	712	679	772	201	322	645	411	646	722
22	880	710	661	716	746	760	210	280	636	413	660	567
23	975	697	683	672	667	755	229	285	660	448	671	588
24	960	719	300	712	700	740	271	253	651	395	717	588
25	950	747	201	664	758	739	302	275	660	420	717	585
26	520	760	206	676	700	786	380	172	661	300	685	580
27	480	777	212	697	700	708	477	200	665	240	760	310
28	492	767	210	672	685	740	390	274	640	345	717	330
29	510	772	213	660	687	786	361	328	589	443	725	360
30	580	772	246	700	---	792	167	305	580	445	740	397
31	620	---	306	677	---	798	---	395	---	479	698	---
MONTH	633	719	547	639	666	725	401	263	518	414	656	571

TEMPERATURE (DEG. C) OF WATER • WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		21.0	13.5	13.5	12.0	21.0	15.5	---	24.0	26.5	---	26.0
2		---	12.0	16.5	10.0	21.0	---	---	23.5	27.0	26.5	26.5
3		21.0	11.0	---	11.0	22.0	---	---	23.5	27.0	27.0	25.5
4		21.0	15.5	9.5	14.5	21.5	---	20.0	24.0	---	26.0	---
5		18.5	16.5	8.5	12.0	21.5	---	21.0	25.5	---	25.5	---
6		19.5	17.0	9.5	11.5	22.0	18.5	21.0	26.0	26.5	26.5	---
7		20.0	18.0	9.5	10.5	---	18.5	21.5	25.5	24.5	---	26.0
8		20.0	13.0	5.0	---	---	18.5	20.0	24.5	25.0	---	26.5
9		---	13.0	3.5	13.5	18.5	---	---	25.5	24.5	27.0	26.0
10		21.0	11.0	7.0	16.0	15.5	20.0	23.5	25.0	24.5	27.0	26.0
11		21.0	13.0	11.0	17.0	18.5	---	23.5	24.5	---	27.0	24.0
12		19.5	16.5	13.0	18.5	---	---	23.5	---	26.0	26.0	---
13		14.5	18.5	16.0	18.5	17.0	22.0	22.0	---	26.0	27.0	22.0
14		12.0	---	15.0	19.0	---	21.5	21.5	25.5	26.0	27.0	25.0
15		13.0	16.5	14.0	---	14.0	22.0	21.5	25.5	26.5	---	24.5
16		15.5	---	13.5	21.0	14.5	---	---	25.5	26.5	27.0	24.5
17		18.5	10.5	13.5	20.5	12.0	21.5	22.0	25.0	27.0	26.0	25.5
18		19.0	---	---	18.5	15.5	---	21.5	26.5	---	26.5	---
19		21.0	6.0	13.5	19.0	18.5	21.0	21.0	26.5	27.0	25.5	---
20		18.5	---	11.5	19.5	---	21.0	21.5	---	27.0	25.0	25.0
21		---	8.0	10.5	18.5	---	21.5	21.5	---	27.0	24.5	24.5
22		---	9.5	9.5	16.5	---	---	---	---	26.5	---	22.0
23		10.0	9.5	10.0	14.5	16.0	23.5	---	---	26.5	24.5	23.5
24		9.0	---	11.5	15.0	19.0	23.5	23.0	---	26.5	25.0	23.5
25		8.5	11.0	19.0	15.0	18.0	---	23.5	---	---	24.5	23.5
26		---	---	13.5	---	22.0	---	23.0	26.0	26.5	24.5	---
27		11.0	14.5	8.5	---	19.0	21.5	24.0	---	27.0	24.5	24.0
28		17.0	---	8.0	16.0	---	---	23.0	26.5	26.5	24.5	---
29		18.5	12.0	8.5	20.5	21.0	---	23.5	26.5	27.0	---	---
30		18.5	10.0	10.0	---	---	20.0	---	27.0	26.5	26.0	22.0
31		---	9.0	14.0	---	15.5	---	---	---	26.5	25.5	---
MONTH		17.5	---	11.5	16.0	---	---	---	---	26.5	26.0	---

08164505 Mustang Creek below Ganado, Tex.
(Reconnaissance partial-record station)

LOCATION.--Lat 28°59'33", Long 96°32'06", Jackson County, at bridge on Farm Road 2982 and 3.5 miles (5.6 km) south of Ganado.

DRAINAGE AREA.--290 mi² (751 km²).

PERIOD OF RECORD.--Periodic discharge measurements: October 1975 to current year. Periodic water-quality data: October 1975 to current year.

DISCHARGE AND WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIO-CHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)
OCT 15...	1340	25	836	7.8	24.5	20	6.8	81	1.6	240	50
NOV 12...	1550	.53	714	7.5	17.5	15	7.0	73	2.5	190	29
DEC 18...	1650	.30	731	7.3	10.0	7	5.8	51	1.9	230	30
FEB 05...	1425	.35	630	8.2	20.5	20	10.3	113	6.0	160	0
MAR 17...	0945	.16	429	7.0	15.5	65	5.4	53	5.0	82	0
MAY 04...	1643	48	395	7.4	24.0	65	7.1	84	4.7	130	41
JUN 15...	1100	36	499	7.7	28.5	25	7.4	96	5.1	170	33
JUL 23...	1945	178	393	7.5	29.0	40	6.7	88	1.5	120	16
SEP 07...	1610	129	621	7.5	30.0	45	6.4	85	2.8	180	24

DATE	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	BROMIDE (BR) (MG/L)
OCT 15...	74	14	75	2.1	6.5	234	0	15	150	--	--
NOV 12...	56	12	65	2.1	11	196	0	21	110	.5	.4
DEC 18...	69	14	59	1.7	11	244	0	12	110	.3	--
FEB 05...	48	8.6	67	2.3	6.9	192	0	31	81	.6	--
MAR 17...	25	4.6	60	2.9	6.0	144	0	18	52	.6	.1
MAY 04...	39	7.1	27	1.0	5.0	104	0	20	55	.4	--
JUN 15...	52	8.7	36	1.2	2.2	162	0	18	59	.4	--
JUL 23...	35	7.7	31	1.2	3.4	126	0	9.2	58	.3	.4
SEP 07...	53	12	48	1.6	16	192	0	8.8	96	.4	--

DATE	IODIDE (I) (MG/L)	DISSOLVED SILICA (SiO2) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NON-FILTERABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
OCT 15...	--	46	496	39	.15	.00	.01	.85	.20	17
NOV 12...	.03	24	401	30	.30	.01	.04	.96	.41	12
DEC 18...	--	30	426	20	.00	.00	.07	.75	.31	--
FEB 05...	--	9.5	347	8	.41	.01	.26	.94	.63	13
MAR 17...	.02	13	251	104	.41	.08	.49	1.6	1.3	26
MAY 04...	--	15	220	106	1.4	.12	.07	1.3	.28	10
JUN 15...	--	24	280	51	.24	.01	.03	.91	.15	8.8
JUL 23...	.01	29	237	82	.08	.01	.02	.88	.14	7.3
SEP 07...	--	58	387	104	.08	.01	.04	1.5	.24	13

LAVACA RIVER BASIN

08164505 Mustang Creek below Ganado, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		DIS-SOLVED ALUMINUM (AL) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	DIS-SOLVED CHROMIUM (CR) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)					
DATE	TIME												
NOV. 12...	1550	0	6	180	0	0	0	2					
MAR. 17...	0945	40	7	250	0	0	0	2					
JULY 23...	1045	20	4	80	0	0	0	2					
DATE	TIME	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MANGANESE (MN) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED STRONTIUM (SR) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)				
NOV. 12...	50	0	8	80	.2	0	340	10					
MAR. 17...	80	0	10	50	.2	0	120	20					
JULY 23...	70	0	10	0	.1	0	250	10					
DATE	TIME	TOTAL PCB (UG/L)	PCB IN BOTTOM MATERIAL (UG/KG)	POLY-CHLORINATED NAPHTHALENES (UG/L)	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL CHLORDANE (UG/L)	CHLORDANE IN BOTTOM MATERIAL (UG/KG)	TOTAL DDD (UG/L)	DDD IN BOTTOM MATERIAL (UG/KG)	TOTAL DDE (UG/L)	DDE IN BOTTOM MATERIAL (UG/KG)	
NOV. 12...	1550	20	0	--	.00	.0	.1	4	.00	.1	.00	.0	
MAR. 17...	0945	.0	0	.00	.00	.1	.0	93	.00	.0	.00	.1	
JULY 23...	1045	.0	--	.00	.00	--	.0	--	.00	--	.00	--	
DATE	TIME	TOTAL DDT (UG/L)	DDT IN BOTTOM MATERIAL (UG/KG)	TOTAL DIAZINON (UG/L)	TOTAL DIELDRIN (UG/L)	DIELDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL ETHION (UG/L)	ETHION IN BOTTOM MATERIAL (UG/KG)	TOTAL HEPTACHLOR EPOXIDE (UG/L)	HEPTACHLOR EPOXIDE IN BOTTOM MATERIAL (UG/KG)	
NOV. 12...	.00	.0	.00	.00	.0	.00	.0	.00	.00	.0	.00	.0	
MAR. 17...	.00	.0	.04	.00	.0	.00	.0	.00	.00	.0	.00	.1	
JULY 23...	.00	--	.00	.00	--	.00	--	.00	.00	--	.00	--	
DATE	TIME	TOTAL LINDANE (UG/L)	LINDANE IN BOTTOM MATERIAL (UG/KG)	TOTAL MALATHION (UG/L)	TOTAL METHYL PARATHION (UG/L)	METHYL PARATHION IN BOTTOM MATERIAL (UG/KG)	TOTAL PARA-THION (UG/L)	TOX-APHENE IN BOTTOM MATERIAL (UG/KG)	TOTAL TRI-THION (UG/L)	TRI-THION IN BOTTOM MATERIAL (UG/KG)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
NOV. 12...	.00	.0	.00	.00	.00	.00	.0	0	0	.00	.01	.00	.00
MAR. 17...	.00	.0	.00	.00	.00	.00	.0	0	0	.00	.00	.00	.00
JULY 23...	.00	--	.01	.00	.00	.00	.0	--	.00	.00	.00	.00	.00

GARCITAS CREEK BASIN

241

08164600 Garcitas Creek near Inez, Tex.

LOCATION.--Lat 28°53'28", long 96°49'08", Victoria County, at right downstream end of bridge on U.S. Highway 59 access road, 0.3 mile (0.5 km) upstream from Southern Pacific Railroad bridge, 2.0 miles (3.2 km) southwest of Inez, and 3.6 miles (5.8 km) upstream from Casa Blanca Creek.

DRAINAGE AREA.--91.7 mi² (238 km²).

PERIOD OF RECORD.--Discharge: June 1970 to current year.

Water quality: Chemical, biochemical, and pesticide analyses: October 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is 29.16 ft (8.888 m) above mean sea level.

AVERAGE DISCHARGE.--6 years, 44.4 ft³/s (1.257 m³/s), 6.58 in/yr (167 mm/yr), 32,170 acre-ft/yr (39.7 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 5,980 ft³/s (169 m³/s) Dec. 25 (gage height, 20.84 ft or 6.352 m); minimum, 0.67 ft³/s (0.019 m³/s) Sept. 11.

Period of record: Maximum discharge, 5,980 ft³/s (169 m³/s) Dec. 25, 1975 (gage height, 20.84 ft or 6.352 m); no flow May 22, 23, May 26 to June 17, 1971.

Maximum stage since 1903, 24.5 ft (7.47 m) Oct. 26, 1960. In 1929, a flood nearly as high as the 1960 flood occurred, and a flood in September 1967 reached a stage of 23.4 ft (7.13 m), from information by local resident.

REMARKS.--Discharge records good. No known diversion above station. An undetermined amount of return water from irrigation enters stream above station. Recording rain gage at station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	1.2	3.2	1.6	32	2.5	2.3	2.8	196	15	2.7	2.5	2.0		
2	1.0	3.4	1.5	24	2.6	2.3	4.9	90	100	1.7	2.6	1.9		
3	.94	4.2	1.5	18	2.6	2.0	3.7	47	88	1.7	2.4	1.8		
4	.34	4.0	1.5	14	2.6	2.2	2.0	27	41	1.4	2.1	1.8		
5	.45	3.8	1.5	11	2.6	2.2	3.4	19	24	1.3	2.0	1.7		
6	.85	3.2	1.6	9.7	2.7	2.0	22	14	16	1.7	2.0	1.7		
7	.93	2.9	1.6	8.1	2.4	2.6	24	16	11	17	2.1	1.6		
8	1.0	2.9	1.5	6.9	2.4	3.7	62	732	8.2	9.1	2.2	1.5		
9	1.1	2.8	1.4	6.6	2.4	5.9	103	172	6.2	21	2.2	1.0		
10	1.3	2.4	1.3	6.5	2.6	7.8	43	77	5.0	81	1.9	.63		
11	1.5	1.4	1.3	6.3	2.7	8.3	19	66	4.8	137	1.9	.39		
12	1.5	1.1	1.2	5.9	2.7	9.4	11	1410	4.1	87	2.5	.53		
13	1.5	.94	1.4	5.6	2.6	6.1	6.6	1020	3.5	43	2.3	.87		
14	1.6	.92	1.2	4.9	2.6	4.1	4.4	730	3.2	36	2.6	.13		
15	3.4	1.1	1.2	4.5	2.6	3.4	3.4	185	3.1	100	2.3	9.5		
16	2.8	1.6	2.5	4.2	2.6	2.6	3.2	91	3.2	94	6.1	5.4		
17	2.4	1.7	2.0	3.8	2.6	2.2	2.7	51	3.5	79	5.0	3.2		
18	1.9	2.6	1.5	3.7	2.4	1.9	3.2	32	5.3	51	4.0	2.5		
19	1.6	2.4	1.3	3.7	2.3	1.9	369	24	4.6	31	3.0	11		
20	1.4	2.6	1.3	4.1	2.2	1.9	608	19	3.9	20	2.5	40		
21	1.5	2.0	1.3	3.8	2.4	1.8	694	19	3.5	14	2.3	49		
22	1.7	1.6	1.2	3.5	2.2	1.8	153	16	3.0	11	2.2	29		
23	2.0	1.3	1.2	3.5	2.0	1.6	77	14	2.8	24	2.1	16		
24	2.2	1.3	1050	3.4	1.4	1.5	42	12	2.8	22	2.0	9.9		
25	7.3	1.4	4210	4.7	2.0	1.5	31	9.9	2.8	11	2.0	6.7		
26	15	1.5	615	3.4	2.2	1.3	25	14	5.0	6.9	2.5	6.9		
27	7.2	1.5	252	2.9	2.2	1.0	17	18	3.9	6.2	3.0	130		
28	5.4	1.5	144	2.7	2.0	.87	12	25	3.5	4.4	2.5	269		
29	4.8	1.8	97	2.7	2.2	1.1	234	17	2.9	3.3	5.0	514		
30	4.1	1.4	63	2.7	---	1.4	1140	12	2.6	2.8	3.0	137		
31	3.6	---	42	2.6	---	3.5	---	0.4	---	2.6	2.3	---		
TOTAL	44.41	65.46	6506.6	219.4	69.8	92.17	3726.3	5183.3	386.4	924.8	83.1	1269.52		
MEAN	2.72	2.18	210	7.08	2.41	2.97	124	167	12.9	29.8	2.68	42.3		
MAX	15	4.2	4210	32	2.7	9.4	1140	1410	100	137	6.1	514		
MIN	.84	.92	1.2	2.6	1.9	.87	2.0	9.4	2.6	1.3	1.9	.39		
CFSM	.03	.02	2.29	.08	.03	.03	1.35	1.82	.14	.32	.03	.46		
IN	.03	.03	2.64	.09	.03	.04	1.51	2.10	.16	.38	.03	.52		
AC-FT	167	130	12910	435	138	183	7390	10280	766	1830	165	2520		
Cal Yr 1975	TOTAL	13912.05	MEAN	38.1	MAX	4210	MIN	.40	CFSM	.42	IN	5.64	AC-FT	27590
WTR Yr 1976	TOTAL	18611.26	MEAN	50.9	MAX	4210	MIN	.39	CFSM	.56	IN	7.55	AC-FT	36920

PEAK DISCHARGE (BASE, 400 FT³/S)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
12-25	0600	20.84	5,980	5- 8	1400	13.01	1,070
4-21	0100	14.25	1,440	5-12	1300	16.02	2,130
4-30	0700	14.91	1,680	9-29	1000	11.48	680

GARCITAS CREEK BASIN

08164600 Garcitas Creek near Inez, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPECIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	RIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)	HARD- NESS (CA+MG) (MG/L)	NON- CAP- BONATE HARD- NESS (MG/L)
OCT 08...	1620	.92	659	7.9	29.0	7	9.2	118	1.0	260	39
NOV 12...	1225	1.2	687	8.0	21.0	5	9.6	107	.4	270	51
DEC 19...	0940	1.5	684	8.0	8.0	2	11.0	92	.9	250	33
FEB 06...	0940	2.5	680	8.0	13.0	2	8.6	31	.4	280	37
MAR 17...	1425	2.2	614	8.0	22.5	4	10.4	118	1.6	210	15
MAY 04...	1100	28	255	7.5	23.0	40	6.6	76	3.7	97	7
JUN 14...	1535	3.2	488	7.8	33.0	9	8.4	117	4.0	200	13
JUL 23...	1445	10	345	7.8	29.0	20	8.0	105	2.1	120	0
SEP 08...	1035	1.6	574	7.8	28.5	15	8.0	104	1.8	190	0

DATE	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	BROMIDE (BR) (MG/L)
OCT 08...	86	11	42	1.1	2.1	269	0	38	57	--	--
NOV 12...	88	11	48	1.3	2.3	262	0	36	73	.4	.3
DEC 19...	80	12	53	1.5	1.6	263	0	43	66	.3	--
FEB 06...	92	11	40	1.1	1.4	240	0	45	53	.3	--
MAR 17...	68	9.8	52	1.6	2.2	238	0	34	71	.6	.2
MAY 04...	32	4.2	15	.7	2.3	110	0	12	19	.3	--
JUN 14...	66	7.4	29	.9	1.7	222	0	23	36	.3	--
JUL 23...	37	6.0	26	1.0	2.6	150	0	13	33	.4	.2
SEP 08...	61	10	45	1.4	2.0	238	0	27	55	.4	--

DATE	IODIDE (I) (MG/L)	DIS- SOLVED SILICA (SIO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
OCT 08...	--	31	400	15	.00	.00	.00	.46	.03	9.2
NOV 12...	.08	28	417	10	.00	.00	.10	.12	.02	6.0
DEC 19...	--	26	412	13	.01	.00	.03	.12	.03	--
FEB 06...	--	28	414	2	.01	.00	.02	.19	.01	5.4
MAR 17...	.09	27	383	5	.00	.01	.02	.67	.02	16
MAY 04...	--	18	157	48	.01	.01	.03	1.1	.03	14
JUN 14...	--	28	301	8	.00	.00	.02	.66	.01	12
JUL 23...	.02	28	221	42	.00	.00	.01	.95	.04	11
SEP 08...	--	32	350	22	.00	.00	.00	.43	.03	6.9

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

				DIS-SOLVED ALUMINUM (AL) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	DIS-SOLVED CHROMIUM (CR) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)		
		DATE	TIME									
		NOV. 12...										
		1225		0	3	160	0	0	0	0		
		MAR. 17...										
		1425		10	3	150	0	0	0	0		
		JULY 23...										
		1445		40	4	90	0	0	0	3		
		DATE	TIME	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MANGANESE (MN) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED STRONTIUM (SR) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	
		NOV. 12...										
		1225	20	0	7	60	.3	0	440	10		
		MAR. 17...										
		1425	30	0	10	0	.1	0	270	10		
		JULY 23...										
		1445	100	2	10	0	.1	0	260	10		
DATE	TIME	TOTAL PCB (UG/L)	PCB IN BOTTOM MATERIAL (UG/KG)	POLY-CHLORINATED NAPHA-LENES (UG/L)	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL CHLOR-DANE (UG/L)	CHLOR-DANE IN BOTTOM MATERIAL (UG/KG)	TOTAL DDD (UG/L)	DDD IN BOTTOM MATERIAL (UG/KG)	TOTAL DDE (UG/L)	DDE IN BOTTOM MATERIAL (UG/KG)
NOV. 12...	1225	.0	0	--	.00	.0	.0	0	.00	.0	.00	.0
MAR. 17...	1425	.0	0	.00	.00	.0	.0	0	.00	.0	.00	.0
JULY 23...	1445	.0	0	.00	.00	.0	.0	0	.00	.0	.00	.0
DATE	TIME	TOTAL DDT (UG/L)	DDT IN BOTTOM MATERIAL (UG/KG)	TOTAL DIELDRIN (UG/L)	DI-ELDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL ETHION (UG/L)	HEPTA-CHLOR IN BOTTOM MATERIAL (UG/KG)	TOTAL HEPTA-CHLOR EPOXIDE IN BOTTOM MATERIAL (UG/L)	HEPTA-CHLOR EPOXIDE IN BOTTOM MATERIAL (UG/KG)	
NOV. 12...	.00	.0	.00	.00	.0	.00	.0	.00	.00	.00	.00	
MAR. 17...	.00	.0	.00	.00	.0	.00	.0	.00	.0	.00	.00	
JULY 23...	.00	.0	.00	.00	.0	.00	.0	.00	.0	.00	.00	
DATE	TIME	TOTAL LINDANE (UG/L)	LINDANE IN BOTTOM MATERIAL (UG/KG)	TOTAL MALATHION (UG/L)	TOTAL METHYL PARA-THION (UG/L)	TOTAL PARA-THION (UG/L)	TOTAL TOX-APHENE (UG/L)	TOX-APHENE IN BOTTOM MATERIAL (UG/KG)	TOTAL TPT-THION (UG/L)	TOTAL TPT-THION (UG/L)	TOTAL SILVERX (UG/L)	
NOV. 12...	.00	.0	.00	.00	.00	.00	0	0	.00	.00	.00	
MAR. 17...	.00	.0	.00	.00	.00	.00	0	0	.00	.00	.00	
JULY 23...	.00	.0	.00	.00	.00	.00	0	0	.00	.00	.00	

PLACEDO CREEK BASIN

08164800 Placido Creek near Placido, Tex.

LOCATION.--Lat 28°43'30", long 96°46'07", Victoria County, on right bank at downstream end of bridge on Farm Road 616, 0.1 mile (0.2 km) downstream from confluence of Lone Tree Creek and Arroyo Palo Alto, 1.2 miles (1.9 km) upstream from Ninemile Creek, and 4.4 miles (7.1 km) northeast of Placido.

DRAINAGE AREA.--68.3 mi² (177 km²).

PERIOD OF RECORD.--Discharge: June 1970 to current year.

Water quality: Chemical, biochemical, and pesticide analyses: October 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 5.58 ft (1.701 m) above mean sea level.

AVERAGE DISCHARGE.--6 years, 54.2 ft³/s (1.535 m³/s), 39,270 acre-ft/yr (48.4 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 5,340 ft³/s (151 m³/s) Dec. 25 (gage height, 23.57 ft or 7.184 m); minimum, 0.12 ft³/s (0.003 m³/s) Apr. 16.

Period of record: Maximum discharge, 8,250 ft³/s (234 m³/s) June 13, 1973 (gage height, 25.96 ft or 7.913 m); no flow Sept. 8, 9, 1971.

Maximum stage since 1930, 31.9 ft (9.72 m) in September 1967 and 30.4 ft (9.27 m) in 1960 (probably October), from information by local resident.

REMARKS.--Discharge records good. No known diversion above station. Recording rain gage located at station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.52	2.9	.64	2.2	.61	.35	.50	41	1.2	.26	3.2	1.9
2	.49	2.1	.62	1.4	.59	.35	.50	9.9	1.8	.27	2.8	3.3
3	.44	1.5	.58	1.0	.57	.35	.54	3.7	.91	.52	2.8	4.4
4	.46	1.6	.65	.91	.61	.35	.71	1.8	1.0	.29	3.2	6.8
5	.98	1.2	.72	.88	.55	.33	.95	1.1	1.1	1.3	3.0	2.7
6	.82	.83	.72	1.2	.55	.31	3.2	1.1	1.6	2.8	3.2	1.8
7	1.2	.66	.61	.93	.55	.35	3.5	1.6	1.0	3.0	2.8	.93
8	.70	.55	.50	.71	.55	.37	34	1.5	.71	4.2	2.4	.44
9	.50	.55	.50	.64	.55	.44	49	6.7	2.0	.29	2.1	1.5
10	.45	.56	.52	.67	.57	.41	6.8	2.5	1.2	591	3.7	1.8
11	.45	.53	.52	.68	.61	.35	1.7	1.2	1.0	797	3.5	3.2
12	.53	.70	.50	.58	.57	.38	.42	.93	1.0	137	3.4	1.9
13	2.0	.67	.46	.55	.55	.41	.21	1.5	.87	37	3.7	1.4
14	4.8	.54	.45	.53	.52	.45	.21	.29	.84	147	2.5	4.3
15	7.7	.47	.47	.42	.50	.44	.17	16	1.5	647	3.7	8.9
16	30	.53	.67	.40	.50	.43	.14	5.4	1.4	248	3.5	2.6
17	25	.61	.60	.42	.46	.45	.16	2.6	.62	73	2.5	1.2
18	7.3	2.6	.42	.38	.48	.43	.15	1.5	1.5	21	1.9	1.2
19	3.8	1.3	.36	.41	.49	.36	268	.99	1.2	8.3	3.9	1.7
20	2.0	.91	.35	.40	.47	.47	298	.83	1.0	5.4	2.4	199
21	1.1	.35	.38	.47	.45	.45	152	2.0	1.1	4.1	1.9	269
22	.63	.20	.37	.39	.41	.40	38	1.2	1.6	3.6	1.4	68
23	.53	.20	.35	.41	.39	.38	11	2.4	2.1	3.7	.95	19
24	1.0	.23	1520	.47	.33	.40	4.9	1.8	1.7	2.8	.81	7.0
25	2.3	.25	4540	.65	.34	.45	3.5	1.2	1.3	2.3	2.0	4.0
26	91	.28	1040	.61	.36	.47	3.5	1.7	.86	2.1	2.8	2.9
27	108	.33	134	.51	.37	.46	2.5	3.1	1.4	2.5	1.1	2.1
28	37	.38	44	.51	.37	.43	1.1	6.5	1.6	2.9	.86	15
29	16	.50	18	.61	.36	.49	358	2.4	1.1	3.4	3.5	58
30	6.8	.66	7.9	.71	---	.50	188	1.3	.40	3.3	2.5	39
31	4.8	---	4.0	.62	---	.50	---	.85	---	3.1	2.5	---
TOTAL	359.30	24.69	7319.86	21.27	14.23	12.71	1431.36	155.30	36.61	2787.14	80.52	734.97
MEAN	11.6	.82	236	.69	.49	.41	47.7	5.01	1.22	89.9	2.60	24.5
MAX	108	2.9	4540	2.2	.61	.50	358	41	2.1	797	3.9	269
MIN	.44	.20	.35	.38	.33	.31	.14	.83	.40	.26	.81	.44
AC-FT	713	49	14520	42	28	25	2840	308	73	5530	160	1460
CAL YR 1975 TOTAL	13053.78			MEAN 35.8	MAX 4540	MIN .20	AC-FT 25890					
WTR YR 1976 TOTAL	12977.96			MEAN 35.5	MAX 4540	MIN .14	AC-FT 25740					

PEAK DISCHARGE (BASE, 1,000 FT³/S).--Dec. 25 (0300) 5,340 ft³/s (23.57 ft); July 10 (2400) 1,350 ft³/s (17.98 ft).

PLACEDO CREEK BASIN

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08164800 Placido Creek near Placido, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)
OCT 08...	1227	.67	4380	7.4	22.5	6	7.6	87	1.6	940	670
NOV 12...	0945	.89	3810	7.2	18.0	10	3.9	41	1.2	830	550
DEC 18...	1400	.40	6580	7.4	13.0	40	7.7	73	1.3	1300	1000
FEB 04...	1050	.60	4750	7.3	18.0	6	7.3	77	.4	990	680
MAR 18...	1025	.39	5790	7.3	19.0	6	7.4	80	1.8	1300	1000
APR 28...	1350	.97	1090	6.9	25.0	50	4.6	55	4.4	260	95
JUN 09...	1530	2.1	3830	7.5	28.0	20	7.4	96	4.7	660	390
JUL 20...	1520	5.3	963	7.1	31.0	30	5.4	73	2.1	210	79
SEP 01...	1025	2.0	2470	7.3	27.0	20	3.6	46	5.2	360	160

DATE	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	BROMIDE (BR) (MG/L)
OCT 08...	300	46	600	8.5	6.4	322	0	45	1200	--	--
NOV 12...	260	42	490	7.4	5.6	340	0	42	1100	.5	5.0
DEC 18...	420	70	900	11	4.6	376	0	53	2100	.5	--
FEB 04...	310	52	610	8.4	3.4	380	0	50	1400	.6	--
MAR 18...	380	78	850	10	3.5	303	0	68	1900	.7	10
APR 28...	93	13	120	3.2	5.5	202	0	21	240	.6	--
JUN 09...	200	40	550	9.3	4.6	340	0	30	1100	.7	--
JUL 20...	67	11	120	3.6	6.0	164	0	11	230	.5	1.0
SEP 01...	110	21	350	8.0	12	248	0	20	670	.6	--

DATE	IODIDE (I) (MG/L)	DIS- SOLVED SILICA (SI02) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NON- FILT- RABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
OCT 08...	--	29	2390	22	.00	.00	.01	.68	.09	7.8
NOV 12...	.46	32	2150	35	.02	.00	.13	.29	.17	6.8
DEC 18...	--	30	3760	7	.01	.00	.17	.05	.12	--
FEB 04...	--	26	2640	12	.01	.00	.10	.14	.03	12
MAR 18...	.69	29	3470	--	.01	.00	.05	.22	.04	5.2
APR 28...	--	25	608	82	.03	.03	.13	.97	.34	8.6
JUN 09...	--	24	2120	34	.03	.00	.04	.44	.04	5.8
JUL 20...	.08	30	559	60	.02	.00	--	--	.35	14
SEP 01...	--	43	1350	29	.04	.01	.06	1.4	.22	13

PLACEDO CREEK BASIN

08164800 Placedo Creek near Placedo, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		DIS-SOLVED ALUMINUM (AL) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	DIS-SOLVED CHROMIUM (CR) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)					
DATE	TIME												
NOV. 12...	0945		0	5	690	0	0	0					
MAR. 18...	1025		10	3	680	0	0	0					
JULY 20...	1520		20	9	320	0	0	4					
		DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MANGANESE (MN) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED STRONTIUM (SR) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)				
DATE	TIME												
NOV. 12...	90		0	40	160	.0	0	3500	20				
MAR. 18...	10		0	70	120	.2	0	4700	10				
JULY 20...	140		0	20	40	.1	5	640	10				
DATE	TIME	TOTAL PCB (UG/L)	PCR IN BOTTOM MATERIAL (UG/KG)	POLY-CHLORINATED NAPHTHALENES (UG/L)	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL CHLORDANE (UG/L)	CHLORDANE IN BOTTOM MATERIAL (UG/KG)	TOTAL DDD (UG/L)	DDD IN BOTTOM MATERIAL (UG/KG)	TOTAL DDE (UG/L)	DDE IN BOTTOM MATERIAL (UG/KG)	
NOV. 12...	0945	.0	0	--	.00	.0	.0	0	.00	.0	.00	.3	
MAR. 18...	1025	.0	47	.00	.00	.0	.0	0	.00	.0	.00	.0	
JULY 20...	1520	.0	0	.00	.00	.0	.0	0	.00	.3	.00	.5	
DATE	TIME	TOTAL DDT (UG/L)	DDT IN BOTTOM MATERIAL (UG/KG)	TOTAL DIAZINON (UG/L)	TOTAL DIELDRIN (UG/L)	DIELDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL ETHION (UG/L)	HEPTA-CHLOR IN BOTTOM MATERIAL (UG/KG)	TOTAL HEPTA-CHLOR EPOXIDE (UG/L)	HEPTA-CHLOR EPOXIDE IN BOTTOM MATERIAL (UG/KG)	
NOV. 12...	.00	.0	.02	.01	.0	.00	.0	.00	.00	.0	.00	.0	
MAR. 18...	.00	.0	.00	.00	.0	.00	.0	.00	.00	.0	.00	.0	
JULY 20...	.00	.0	.00	.00	.0	.00	.0	.00	.00	.0	.00	.0	
DATE	TIME	TOTAL LINDANE (UG/L)	LINDANE IN BOTTOM MATERIAL (UG/KG)	TOTAL MALATHION (UG/L)	TOTAL METHYL PARA-THION (UG/L)	TOTAL METHYL TRI-THION (UG/L)	TOTAL PARA-THION (UG/L)	TOTAL TOXAPHENE (UG/L)	TOXAPHENE IN BOTTOM MATERIAL (UG/KG)	TOTAL TRI-THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
NOV. 12...	.00	.0	.00	.00	.00	.00	0	0	.00	.00	.00	.00	.00
MAR. 18...	.00	.0	.0	.00	.00	.00	0	0	.00	.00	.00	.00	.00
JULY 20...	.00	.0	.00	.00	.00	.00	0	0	.00	.00	.00	.00	.00

CHOCOLATE BAYOU BASIN

247

08164850 Chocolate Bayou near Port Lavaca, Tex.
(Reconnaissance partial-record station)

LOCATION.--Lat 28°35'40", long 96°41'48", Calhoun County, at bridge on Sweetwater Road, 2.3 miles (3.7 km) upstream from State Highway 35, and 4.5 miles (7.2 km) southwest of Port Lavaca.

DRAINAGE AREA.--53.7 mi² (139.1 km²).

PERIOD OF RECORD.--Periodic discharge measurements: September 1967 to July 1968, February 1970 to current year. Periodic water-quality data: June 1970 (revised) to current year.

DISCHARGE AND WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH	TEMPERATURE	TURBIDITY	DISSOLVED OXYGEN	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND 5 DAY	HARDNESS (CA+MG)	NON-CARBONATE HARDNESS	
				(UNITS)	(DEG C)	(JTU)	(MG/L)		(MG/L)	(MG/L)	(MG/L)	(MG/L)
OCT 08...	0850	1.1	3800	7.3	21.5	3	4.3	49	2.0	850	560	
NOV 11...	1630	.90	2200	7.4	24.5	20	6.4	76	2.6	370	110	
DEC 18...	1105	.29	6450	7.7	8.5	20	12.9	109	1.2	1600	1300	
FEB 03...	1755	.31	4820	8.2	19.5	10	16.4	176	3.4	1100	870	
MAR 18...	1255	.15	6630	8.0	22.0	3	13.4	156	15	1500	1300	
APR 28...	0920	1.8	1670	7.7	23.5	45	6.2	72	4.7	260	0	
JUN 09...	1315	1.6	1800	7.4	30.5	30	7.5	101	7.2	310	120	
JUL 20...	1240	27	448	7.1	30.5	20	5.3	71	2.7	82	0	
AUG 31...	1625	2.2	3430	7.4	29.0	35	5.0	66	4.4	620	370	
DATE		DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISSOLVED PHOSPHORUS (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	BROMIDE (BR) (MG/L)
OCT 08...	250	55	500	7.5	6.8	355	0	190	1000	--	--	
NOV 11...	110	24	330	7.4	8.5	326	0	51	520	.7	2.2	
DEC 18...	450	110	830	9.1	11	336	0	380	1900	.5	--	
FEB 03...	310	75	620	8.2	6.5	260	0	280	1300	.4	--	
MAR 18...	430	110	1000	11	6.0	286	0	420	2100	.6	12	
APR 28...	76	16	260	7.1	6.6	319	0	39	370	1.0	--	
JUN 09...	93	20	260	6.4	5.5	242	0	83	430	.6	--	
JUL 20...	24	5.2	59	2.8	5.0	144	0	9.0	70	.5	.5	
AUG 31...	170	48	480	8.4	13	306	0	130	910	.8	--	
DATE		IODIDE (I) (MG/L)	DISSOLVED SILICA (SiO2) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NON-FILTERABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	
OCT 08...	--	22	2200	17	.07	.00	.35	.85	.21	4.2		
NOV 11...	.22	62	1270	56	.18	.01	.25	1.6	.18	--		
DEC 18...	--	20	3870	11	.30	.07	.94	.36	.41	--		
FEB 03...	--	4.6	2720	24	.48	.08	.46	.64	.39	8.0		
MAR 18...	.81	12	4240	16	.16	.06	.22	1.1	.58	17		
APR 28...	--	21	947	78	3.9	.15	.21	1.3	.15	28		
JUN 09...	--	19	1030	49	.69	.14	.11	1.2	.13	12		
JUL 20...	.02	39	284	54	.02	.01	.05	1.2	.23	10		
AUG 31...	--	27	1930	31	.03	.02	.17	1.5	.15	11		

CHOCOLATE BAYOU BASIN

08164850 Chocolate Bayou near Port Lavaca, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		DIS- SOLVED ALUM- INUM (AL) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)					
DATE		TIME											
NOV. 11...		1630	0	16	620	0	0	2					
MAR. 18...		1255	10	3	590	0	0	0					
JULY 20...		1240	30	9	220	0	0	2					
DATE		DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)				
NOV. 11...		130	0	20	120	.6	1	860	20				
MAR. 18...		10	0	60	700	.2	0	3000	20				
JULY 20...		160	0	10	10	.1	3	160	0				
DATE	TIME	TOTAL PCB (UG/L)	PCR IN BOTTOM MA- TERIAL (UG/KG)	POLY- CHLO- RINATED NAPH- THA- LENES (UG/L)	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL CHLOR- DANE (UG/L)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDD (UG/L)	DDD IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDE (UG/L)	DDE IN BOTTOM MA- TERIAL (UG/KG)	
NOV 11...	1630	.0	0	--	.00	.0	.0	0	.00	34	.00	71	
MAR 18...	1255	.0	0	.00	.00	.0	.0	0	.00	8.9	.00	55	
JUL 20...	1240	.0	--	.00	.00	--	.0	--	.00	--	.00	--	
DATE	TIME	TOTAL DDT (UG/L)	DDT IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	TOTAL HEPTA- CHLOR (UG/L)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG)		
NOV 11...	.00	9.8	.02	.00	.3	.00	.1	.00	.00	.0	.00		
MAR 18...	.00	3.0	.01	.00	.4	.00	.0	.00	.00	.0	.00		
JUL 20...	.00	--	.00	.00	--	.00	--	.00	.00	--	.00		
DATE	TIME	TOTAL LINDANE (UG/L)	LINDANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL TOX- APHENE (UG/L)	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
NOV 11...	.00	.0	.00	.00	.00	.00	.00	0	0	.00	.00	.00	.00
MAR 18...	.00	.0	.00	.00	.00	.00	.00	0	0	.00	.00	.00	.00
JUL 20...	.00	--	.00	.00	.00	.00	.00	0	--	.00	.00	.01	.00

GUADALUPE RIVER BASIN

249

08165300 North Fork Guadalupe River near Hunt, Tex.

LOCATION.--Lat 30°03'36", long 99°23'40", Kerr County, on right bank 410 ft (125 m) downstream from Ranch Road 1340, 1.3 miles (2.1 km) downstream from Bear Creek, 3.7 miles (6.0 km) west of Hunt, and 4.1 miles (6.6 km) upstream from Honey Creek.

DRAINAGE AREA.--168 mi² (435 km²).

PERIOD OF RECORD.--August 1967 to current year.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 1,800.10 ft (548.670 m) above mean sea level.

AVERAGE DISCHARGE.--9 years, 35.6 ft³/s (1.008 m³/s), 2.88 in/yr (73 mm/yr), 25,790 acre-ft/yr (31.8 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 143 ft³/s (4.05 m³/s) July 16 (gage height, 5.45 ft or 1.661 m); minimum, 2.7 ft³/s (0.076 m³/s) June 2.

Period of record: Maximum discharge, 38,400 ft³/s (1,090 m³/s) Oct. 13, 1973 (gage height, 26.55 ft or 8.092 m), from rating curve extended above 170 ft³/s (4.81 m³/s) on basis of slope-area measurements of 7,460 and 38,400 ft³/s (211 and 1,090 m³/s); minimum, 0.68 ft³/s (0.019 m³/s) May 30, 1969.

Maximum stage since at least 1900 occurred July 1, 1932, gage height 37.3 ft (11.37 m), discharge 140,000 ft³/s (3,960 m³/s), by slope-area measurements, combined flow of North Fork Guadalupe River 5 miles (8 km) upstream and Bear Creek 2 miles (3 km) upstream from mouth, and adjusted for difference in drainage area.

REMARKS.--Records good. There is a permit upstream from station issued by the Texas Water Rights Commission to impound and use 20.33 acre-ft (25,100 m³) of water on a game preserve.

REVISIONS (WATER YEARS).--WRD Texas 1974: 1971(P).

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	32	32	26	24	24	23	21	14	15	23	20
2	33	33	32	26	24	24	23	20	14	15	22	24
3	33	33	32	26	24	24	23	20	14	15	22	28
4	32	33	32	26	24	24	25	14	14	16	22	22
5	32	31	33	25	24	23	30	20	14	14	22	21
6	32	31	32	25	24	22	24	22	14	17	21	20
7	32	31	32	25	24	23	26	22	17	17	21	20
8	32	31	31	25	23	25	25	25	14	17	20	20
9	31	32	32	25	23	25	24	23	14	19	21	19
10	31	32	31	25	24	24	23	22	14	24	21	18
11	31	31	31	24	24	24	23	22	14	23	20	18
12	31	31	31	24	24	24	23	21	17	20	20	18
13	31	31	31	24	24	23	22	22	17	20	20	18
14	31	31	31	24	24	23	22	22	17	23	20	19
15	31	32	31	24	24	23	23	21	17	23	20	26
16	32	33	31	24	24	22	24	20	23	46	14	21
17	33	33	30	24	24	22	24	20	19	44	19	18
18	33	33	24	23	23	23	25	20	19	34	19	19
19	30	33	24	23	24	23	24	19	17	30	20	27
20	31	32	24	23	24	23	25	19	17	28	19	25
21	33	32	24	23	24	23	26	23	15	27	19	21
22	32	32	29	23	24	23	23	22	14	27	19	20
23	32	32	24	23	23	24	23	21	15	26	19	19
24	32	32	24	23	23	24	22	20	16	26	19	19
25	40	32	24	24	23	25	22	22	17	24	19	19
26	44	31	24	24	23	24	21	24	14	24	19	19
27	34	31	27	24	24	23	21	22	17	25	19	21
28	35	32	27	24	24	22	21	20	15	24	14	22
29	34	34	27	23	24	22	21	19	15	23	21	22
30	33	33	27	23	---	24	22	14	16	23	21	20
31	32	---	26	23	---	25	---	14	---	23	21	---
TOTAL	1020	954	427	744	491	727	717	449	436	756	625	623
MEAN	32.3	30.8	29.9	24.1	23.7	23.5	23.4	21.9	16.5	24.4	20.2	20.8
MAX	44	34	33	26	25	25	30	25	23	66	23	28
MIN	30	30	24	23	23	22	21	18	12	15	14	18
AC-FT	2020	1900	1440	1480	1370	1440	1420	1290	944	1500	1240	1240

CAL YR 1975 TOTAL 17175 MEAN 47.1 MAX 1310 MIN 26 AC-FT 34070
 +TR YR 1976 TOTAL 8936 MEAN 24.4 MAX 66 MIN 12 AC-FT 17730

PEAK DISCHARGE (BASE, 500 FT³/S).--No peak above base.

GUADALUPE RIVER BASIN

08165500 Guadalupe River at Hunt, Tex.

LOCATION.--Lat 30°04'08", long 99°19'23", Kerr County, on right bank 56 ft (17 m) upstream and 137 ft (42 m) right of right end of bridge on State Highway 39, 0.6 mile (1.0 km) downstream from confluence of North and South Forks, 0.8 mile (1.3 km) east of Hunt, and at mile 430.9 (693.3 km).

DRAINAGE AREA.--288 mi² (746 km²).

PERIOD OF RECORD.--October 1941 to September 1949, discharge not computed above 600 ft³/s (17.0 m³/s), and April 1965 to current year. Occasional discharge measurements made 1950 to 1964.

GAGE.--Water-stage recorder. Datum of gage is 1,722.7 ft (525.08 m) above mean sea level.

AVERAGE DISCHARGE.--11 years (1965-76), 63.5 ft³/s (1.798 m³/s), 2.99 in/yr (76 mm/yr), 46,010 acre-ft/yr (56.7 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 2,820 ft³/s (79.9 m³/s) July 16 (gage height, 8.66 ft or 2.640 m, from floodmark); minimum, 92 ft³/s (0.26 m³/s) June 3, 4.
 Period of record: Maximum discharge, 47,000 ft³/s (1,330 m³/s) Aug. 13, 1966 (gage height, 21.4 ft or 6.52 m, from floodmark), from rating curve extended above 3,700 ft³/s (105 m³/s) on basis of channel geometry and flow-over-dam measurement of peak flow; minimum, 6.9 ft³/s (0.20 m³/s) June 17, 1948.
 Maximum stage since 1900, 36.6 ft (11.16 m) July 2, 1932, from information by local residents (discharge, 206,000 ft³/s or 5,830 m³/s), determined by slope-area measurement 4.5 miles (7.2 km) downstream from gage.

REMARKS.--Records good. Numerous diversions for irrigation above station, amounts unknown.

REVISIONS.--WSP 2123: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	57	53	45	41	42	38	39	30	23	41	42
2	4	54	54	45	41	42	36	36	26	24	39	46
3	44	51	56	43	41	41	37	38	15	22	39	62
4	44	54	57	43	42	41	60	36	13	24	38	47
5	49	57	57	43	42	40	58	39	25	31	37	40
6	44	57	55	43	41	39	57	41	27	29	37	36
7	50	55	54	42	41	39	51	51	24	53	36	35
8	44	56	54	42	41	42	46	58	27	38	37	35
9	44	57	54	42	41	42	45	44	24	35	34	34
10	44	55	54	43	41	41	44	42	25	44	33	33
11	50	56	55	43	41	40	42	55	26	56	34	32
12	44	54	55	43	41	42	42	42	27	46	33	32
13	44	52	55	44	40	39	42	45	27	45	33	33
14	44	53	54	43	41	39	42	41	24	57	33	33
15	44	55	54	42	41	39	46	35	26	57	33	38
16	54	56	54	42	40	38	62	37	40	505	33	39
17	52	57	52	42	41	37	55	29	34	149	35	35
18	50	54	50	42	40	38	49	31	29	110	36	33
19	44	57	49	42	40	39	53	28	29	54	35	57
20	44	55	44	42	41	39	54	27	28	58	33	52
21	51	54	51	41	39	37	51	27	23	51	33	43
22	51	54	50	41	39	39	56	33	25	52	34	37
23	52	55	49	42	39	39	46	39	23	50	33	36
24	52	55	57	43	40	42	45	32	23	47	33	46
25	77	55	56	44	41	43	43	32	33	48	33	37
26	44	55	51	43	42	41	40	37	34	46	34	35
27	69	54	49	42	42	39	40	35	30	44	34	35
28	64	55	47	41	42	37	40	31	27	44	33	40
29	62	54	46	42	42	38	42	30	25	42	33	39
30	54	55	45	42	---	41	42	30	24	41	54	37
31	57	---	45	42	---	42	---	28	---	42	62	---
TOTAL	1666	1681	1619	1319	1180	1234	1416	1148	803	2057	1125	1179
MEAN	53.7	54.1	52.2	42.5	40.7	39.8	47.2	37.0	26.4	66.4	36.3	39.3
MAX	44	61	57	45	42	43	68	58	40	595	62	62
MIN	44	52	45	41	39	37	36	27	13	22	33	32
AC-FT	3200	3330	3210	2620	2345	2450	2810	2280	1590	4040	2230	2340

CAL YR 1975 TOTAL 24253 MEAN 60.2 MAX 1340 MIN 45 AC-FT 50440
 YR 1976 TOTAL 18420 MEAN 44.4 MAX 595 MIN 13 AC-FT 32580

PEAK DISCHARGE (BASE, 1,000 FT³/S).--July 16 (0430) 2,820 ft³/s (8.66 ft, from floodmark).

GUADALUPE RIVER BASIN

251

08166000 Johnson Creek near Ingram, Tex.

LOCATION.--Lat 30°06'00", long 99°16'58", Kerr County, on right bank 1.6 miles (2.6 km) upstream from Henderson Branch, 3.4 miles (5.5 km) northwest of Ingram, 3.8 miles (6.1 km) upstream from mouth, and 9.2 miles (14.8 km) northwest of Kerrville.

DRAINAGE AREA.--114 mi² (295 km²).

PERIOD OF RECORD.--September 1941 to November 1959, October 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,721.30 ft (524.652 m) above mean sea level.

AVERAGE DISCHARGE.--33 years, 16.6 ft³/s (0.470 m³/s), 1.98 in/yr (50 mm/yr), 12,030 acre-ft/yr (14.8 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 402 ft³/s (11.4 m³/s) July 4 (gage height, 3.25 ft or 0.991 m); minimum, 12 ft³/s (0.34 m³/s) Aug. 28.

Period of record: Maximum discharge, 95,900 ft³/s (2,720 m³/s) Oct. 4, 1959 (gage height, 24.25 ft or 7.391 m), from rating curve extended above 4,400 ft³/s (125 m³/s) on basis of slope-area measurements of 9,100 and 16,000 ft³/s (258 and 453 m³/s) and conveyance study; minimum daily, 0.4 ft³/s (0.011 m³/s) July 26, 27, 1956.

Maximum stage since at least 1852, 35 ft (10.7 m) July 2, 1932, from information by local resident; discharge, 138,000 ft³/s (3,910 m³/s), by slope-area measurement at point 0.5 mile (0.8 km) downstream from State fish hatchery and 6 or 7 miles (10 or 11 km) upstream from gage. Flood of June 14, 1935, reached a stage of 31 or 32 ft (9.4 or 9.8 m), from information by local resident.

REMARKS.--Records good. Numerous small diversions above station for irrigation.

REVISIONS (WATER YEARS).--WSP 1058: 1942-45. WSP 2123: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	26	26	26	21	21	22	22	18	15	18	18
2	28	27	27	27	22	22	21	22	18	15	17	17
3	28	26	29	27	22	22	22	22	17	15	17	17
4	28	26	28	26	22	22	25	21	16	59	17	16
5	28	26	28	26	23	21	27	21	16	23	17	16
6	28	26	28	26	23	21	24	21	17	19	17	16
7	28	26	27	26	22	22	23	24	17	18	16	16
8	28	25	26	25	22	23	23	23	16	18	16	16
9	28	26	27	26	22	22	22	22	16	21	16	16
10	29	26	28	26	23	22	22	22	16	24	16	15
11	28	25	28	26	22	22	22	22	16	29	16	15
12	28	26	27	26	21	22	22	22	16	23	14	15
13	29	25	27	26	22	21	23	23	16	21	16	15
14	29	26	27	25	22	21	23	21	16	22	16	15
15	28	25	28	25	22	22	24	21	15	22	15	14
16	50	26	27	25	22	21	28	21	17	72	16	15
17	28	26	27	25	19	21	24	21	17	37	17	14
18	26	26	26	25	20	22	23	21	16	25	19	14
19	26	26	26	25	21	22	23	20	16	22	16	22
20	26	26	26	25	21	22	25	20	16	22	15	18
21	26	25	26	25	21	22	24	20	15	22	15	16
22	26	25	26	24	20	22	23	20	15	21	15	15
23	26	25	26	22	20	22	23	20	15	20	15	15
24	26	25	29	22	21	23	23	19	15	20	15	15
25	35	25	28	23	21	22	23	19	19	20	15	15
26	31	25	26	22	20	22	22	19	17	20	15	15
27	28	25	26	22	20	21	23	18	16	19	15	16
28	27	26	27	22	21	21	22	18	16	19	13	37
29	27	28	26	22	21	22	23	18	16	19	15	24
30	26	27	26	21	---	22	22	18	15	18	16	23
31	26	---	26	22	---	22	---	18	---	18	18	---
TOTAL	883	773	835	761	619	675	696	639	487	738	494	511
MEAN	28.5	25.8	26.9	24.5	21.3	21.8	23.2	21.6	16.2	23.8	15.9	17.0
MAX	50	28	29	27	23	23	28	24	19	72	19	37
MIN	26	25	26	21	19	21	21	18	15	15	13	14
AC-FT	1750	1530	1660	1510	1230	1340	1380	1270	966	1460	980	1010

CAL YP 1975 TOTAL 15162 MEAN 41.5 MAX 525 MIN 25 AC-FT 30070
WTR YR 1976 TOTAL 8111 MEAN 22.2 MAX 72 MIN 13 AC-FT 16090

PEAK DISCHARGE (BASE, 500 FT³/S).--No peak above base.

GUADALUPE RIVER BASIN

08167000 Guadalupe River at Comfort, Tex.

LOCATION.--Lat 29°57'55", long 98°53'49", Kendall County, on left bank at downstream side of pier of bridge on U.S. Highway 87, 0.1 mile (0.2 km) downstream from Cypress Creek, and at mile 396.6 (638.1 km).

DRAINAGE AREA.--838 mi² (2,170 km²).

PERIOD OF RECORD.--May 1939 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,372.05 ft (418.201 m) above mean sea level. Prior to Nov. 27, 1939, nonrecording gage.

AVERAGE DISCHARGE.--37 years, 162 ft³/s (4.588 m³/s), 117,400 acre-ft/yr (145 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 2,230 ft³/s (63.2 m³/s) July 16 (gage height, 8.78 ft or 2.676 m); minimum, 88 ft³/s (2.49 m³/s) June 23-25.

Period of record: Maximum discharge, 111,000 ft³/s (3,140 m³/s) Oct. 4, 1959 (gage height, 33.15 ft or 10.104 m), from rating curve extended above 65,000 ft³/s (1,840 m³/s) on basis of slope-area measurement of 182,000 ft³/s or 5,150 m³/s (gage height, 38.4 ft or 11.70 m) made at former gaging station "near Comfort" 5 miles upstream; no flow at times in 1952-57, 1963-64.

Maximum stage since at least 1848, 40.3 ft (12.28 m) in July 1869, from report by Corps of Engineers. Flood of July 1, 1932, reached a stage of 38.4 ft (11.70 m), from floodmark, from information by State Highway Department, and flood of July 16, 1900, reached about the same stage as that of July 1, 1932, from information by local residents.

REMARKS.--Records good. Many small diversions above station for irrigation.

REVISIONS (WATER YEARS).--WSP 1632: 1958. WSP 1732: 1939(M). WSP 2123: Drainage area, 1944(M), 1952(M), 1957(M), 1960(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	147	143	132	134	118	103	107	146	124	121	176	147
2	144	144	134	133	119	102	102	140	125	115	171	596
3	143	155	135	132	119	106	100	135	123	110	162	430
4	143	149	138	130	117	101	154	129	113	126	159	226
5	143	144	136	129	117	108	393	138	104	255	153	196
6	143	143	136	129	117	98	280	146	121	174	148	178
7	142	141	133	130	116	101	217	336	110	154	140	171
8	141	141	132	127	117	108	186	209	109	220	137	166
9	141	139	132	126	114	109	168	190	108	189	134	162
10	142	138	132	127	115	106	156	171	104	358	129	157
11	143	138	134	132	115	104	148	159	103	696	126	155
12	143	149	135	130	113	105	141	162	101	569	125	153
13	142	136	135	129	113	103	138	202	99	370	122	153
14	141	133	135	127	113	101	138	174	98	385	120	150
15	141	134	136	126	113	101	147	159	97	432	118	150
16	147	134	136	124	112	102	405	150	97	1270	114	149
17	171	134	135	123	116	98	207	140	95	1030	115	153
18	153	137	131	123	111	101	199	135	101	637	121	147
19	144	140	129	123	106	103	180	132	104	499	132	165
20	145	138	129	123	105	103	258	140	100	390	125	183
21	143	138	129	126	108	102	209	140	95	358	119	172
22	145	133	129	123	103	102	183	132	92	337	114	160
23	144	132	129	123	103	102	174	132	88	304	111	151
24	150	133	152	120	103	112	168	135	89	283	111	149
25	290	134	184	123	102	111	159	131	735	274	107	149
26	276	139	159	123	96	106	159	150	359	257	106	151
27	195	135	146	122	105	102	144	139	178	236	104	169
28	166	135	140	123	103	97	144	131	150	218	99	347
29	155	136	137	122	102	96	186	127	136	200	184	220
30	149	135	136	120	---	95	159	123	127	187	133	182
31	145	---	134	121	---	107	---	125	---	183	129	---
TOTAL	4865	4160	4250	3903	3211	3195	5509	4758	4193	10937	4044	5837
MEAN	157	139	137	126	111	103	184	153	140	353	130	195
MAX	290	155	184	134	119	112	405	336	735	1270	184	596
MIN	141	132	129	120	96	95	100	123	88	110	99	147
AC-FT	9650	8250	8430	7740	6370	6340	10930	9440	8320	21690	8020	11580

CAL YR 1975 TOTAL 141412 MEAN 387 MAX 6890 MIN 129 AC-FT 280500
WTR YR 1976 TOTAL 58862 MEAN 161 MAX 1270 MIN 88 AC-FT 116800

PEAK DISCHARGE (BASE, 2,600 FT³/S).--No peak above base.

GUADALUPE RIVER BASIN

253

08167500 Guadalupe River near Spring Branch, Tex.

LOCATION.--Lat 29°51'38", long 98°22'58", Comal County, on right bank at downstream side of bridge on county road, 226 ft (69 m), revised, downstream from bridge on Ranch Road 311, 1.9 miles (3.1 km) southeast of Spring Branch Post Office, 7.5 miles (12.1 km) downstream from Curry Creek, and at mile 334.4 (538.0 km).

DRAINAGE AREA.--1,315 mi² (3,406 km²).

PERIOD OF RECORD.--June 1922 to current year.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 948.10 ft (288.981 m) above mean sea level.

AVERAGE DISCHARGE.--54 years, 287 ft³/s (8.128 m³/s), 207,900 acre-ft/yr (256 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 15,600 ft³/s (442 m³/s) Apr. 18 (gage height, 18.5 ft or 5.64 m, from floodmark); minimum, 114 ft³/s (3.23 m³/s) Mar. 31, Apr. 1.

Period of record: Maximum discharge, 121,000 ft³/s (3,430 m³/s) July 3, 1932 (gage height, 42.10 ft or 12.832 m), from rating curve extended above 70,000 ft³/s (1,980 m³/s); no flow at times in 1951-52, 1954-56, and 1963-64.

Maximum stage since at least 1859, about 53 ft (16.2 m) in 1869; flood in July 1900 reached a stage of about 49 ft (14.9 m), from information by local resident.

REMARKS.--Records good. Several small diversions above station for irrigation.

REVISIONS (WATER YEARS).--WSP 1562: 1923-24, 1926, 1927-28(M), 1929, 1930(M). WSP 2123: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	227	212	165	169	146	133	123	425	565	266	422	236
2	221	208	162	166	145	133	124	384	493	249	402	208
3	215	204	167	162	143	131	126	363	449	234	385	875
4	212	214	167	159	146	131	134	338	419	601	368	569
5	212	208	170	158	144	127	191	351	394	753	356	375
6	212	201	168	161	144	140	423	363	376	543	344	315
7	213	199	163	160	144	132	356	884	379	482	329	272
8	214	195	161	156	142	132	296	463	355	389	316	250
9	213	194	161	156	144	136	254	627	344	451	302	238
10	210	187	150	157	144	137	225	576	333	586	291	228
11	209	185	160	159	144	135	209	534	320	1310	274	220
12	210	183	164	160	143	135	191	493	308	1490	256	214
13	209	184	167	165	144	129	182	565	295	1120	250	213
14	206	181	166	159	142	129	171	575	280	994	245	208
15	206	174	166	155	144	126	173	505	272	1050	236	203
16	203	176	168	155	145	125	249	450	260	1030	228	199
17	203	178	168	152	148	122	477	408	252	1760	221	194
18	237	180	164	152	146	123	7600	382	245	1250	219	196
19	223	183	160	154	147	122	1280	368	242	1010	307	200
20	213	178	159	154	144	127	1240	453	265	877	257	221
21	210	175	157	151	151	124	1020	613	246	777	236	257
22	207	174	158	152	143	126	777	462	229	744	223	237
23	214	170	158	153	142	123	678	412	220	711	213	213
24	218	167	175	154	138	131	620	404	211	669	204	200
25	246	166	200	159	139	136	551	387	369	648	200	193
26	547	167	232	153	140	144	494	409	1220	634	195	193
27	386	169	200	150	138	133	445	926	540	584	190	202
28	297	174	186	150	136	129	419	408	376	550	184	252
29	253	175	177	151	141	124	486	547	319	516	177	416
30	228	171	171	151	---	119	519	510	289	469	224	292
31	217	---	170	151	---	129	---	481	---	439	264	---
TOTAL	7341	5532	5260	4844	4159	4022	20033	16066	10865	23186	8318	8089
MEAN	237	184	170	156	143	130	668	518	362	748	268	270
MAX	547	214	232	169	151	144	7600	426	1220	1760	422	875
MIN	203	166	150	150	136	119	123	338	211	234	177	193
AC-FT	14560	10970	10430	9610	8250	7980	39740	31870	21550	45990	16500	16040

CAL YR 1975 TOTAL 260799 MEAN 715 MAX 10500 MIN 150 AC-FT 517300
WTR YR 1976 TOTAL 117715 MEAN 322 MAX 7600 MIN 119 AC-FT 233500

PEAK DISCHARGE (BASE, 4,000 FT³/S).--Apr. 18 (0900) 15,600 ft³/s (18.5 ft, from floodmark).

GUADALUPE RIVER BASIN

08167600 Rebecca Creek near Spring Branch, Tex.

LOCATION.--Lat 29°55'06", long 98°22'10", Comal County, on right bank 72 ft (22 m) upstream from private road crossing, 2.9 miles (4.7 km) upstream from mouth, 3.7 miles (6.0 km) northeast of Spring Branch Post Office, and 6.3 miles (10.1 km) south of Twin Sisters.

DRAINAGE AREA.--10.9 mi² (28.2 km²).

PERIOD OF RECORD.--January 1960 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 985.55 ft (300.396 m) above mean sea level (Corps of Engineers bench mark).

AVERAGE DISCHARGE.--16 years, 5.31 ft³/s (0.150 m³/s), 3,850 acre-ft/yr (4.75 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 1,580 ft³/s (44.7 m³/s) May 7 (gage height, 4.48 ft or 1.366 m); minimum, 0.56 ft³/s (0.016 m³/s) Oct. 16, 17, Mar. 6-8.

Period of record: Maximum discharge, 9,300 ft³/s (263 m³/s) Oct. 18, 1965 (gage height, 7.97 ft or 2.429 m), from rating curve extended above 420 ft³/s (11.9 m³/s) on basis of critical-depth measurement of 4,340 ft³/s (123 m³/s); no flow in 1963-65, 1967, 1971, and 1974.

Maximum stage since at least 1885, 25.5 ft (7.77 m) in September 1952. Flood in 1947 or 1948 was about 4.5 ft (1.4 m) lower than flood in 1952, from information by local residents.

REMARKS.--Records good. Six dams forming recreational lakes at housing developments upstream control runoff from 3.13 mi² (8.11 km²) drainage area. Amount of impoundment unknown. Recording rain gage located at station.

REVISIONS.--WSP 1923: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.90	2.0	1.2	1.2	1.1	.95	.74	8.5	13	2.9	4.7	2.1
2	.74	1.8	1.5	1.2	1.2	.94	.74	8.1	9.6	2.5	4.3	2.1
3	.74	1.8	1.5	1.0	1.2	.94	.92	7.4	8.7	2.1	4.3	2.1
4	.74	1.8	1.3	.95	1.2	.74	.97	7.4	7.9	2.5	3.8	1.8
5	.83	1.8	1.2	.95	1.2	.74	.95	8.7	7.0	3.3	3.8	1.8
6	.75	1.8	1.5	1.0	.85	.63	.74	8.1	6.6	4.9	3.7	1.8
7	.74	1.8	1.5	1.1	.74	.56	.74	134	5.7	5.2	3.3	1.5
8	.74	1.8	1.2	.74	.83	.69	.74	29	5.0	3.4	3.2	1.5
9	.74	1.8	1.2	.74	.95	.74	.74	22	4.3	3.3	2.9	1.5
10	.74	1.6	1.4	.84	.95	.74	.74	20	4.3	3.5	2.6	.95
11	.74	1.5	1.5	.95	.95	.74	.74	17	4.3	10	2.5	.95
12	.74	1.3	1.5	.95	.95	.74	.79	15	4.3	9.7	2.5	.95
13	.74	1.1	1.5	.91	.95	.74	.95	16	4.3	8.4	2.5	.95
14	.74	1.4	1.5	.83	.95	.74	.95	13	3.8	9.4	2.5	.74
15	.74	1.5	1.6	.95	.95	.75	1.0	12	3.5	11	2.5	.74
16	.57	1.6	1.6	.94	.95	.75	1.4	11	4.0	11	2.3	.74
17	.74	1.8	1.7	.95	1.3	.74	.96	9.7	3.8	11	2.1	.95
18	.95	1.8	1.5	.95	1.1	.77	218	9.5	3.3	9.6	2.1	.95
19	.76	1.9	1.5	.98	1.2	.74	22	8.9	3.0	8.8	2.5	1.2
20	.85	2.1	1.6	.95	1.2	.74	28	11	2.9	8.0	2.5	1.2
21	.95	2.1	1.8	.79	1.1	.95	19	10	2.9	7.4	2.1	1.5
22	.95	2.1	1.8	.74	.95	.95	15	8.7	2.9	7.4	2.1	1.8
23	.95	2.1	1.8	.74	.95	.95	13	7.5	2.9	6.7	1.8	1.8
24	.95	1.8	1.9	.80	.95	.95	13	6.7	2.9	6.6	1.8	1.8
25	1.5	1.6	1.3	.98	.95	.95	11	6.0	3.3	6.0	1.8	.95
26	1.2	1.6	1.2	.75	.95	.95	10	29	3.3	6.0	1.8	.95
27	1.2	1.8	1.2	.95	.95	.95	9.7	14	2.9	6.0	2.1	1.2
28	1.4	1.8	1.2	.95	.95	.95	9.7	12	2.9	5.9	1.8	1.5
29	1.4	1.5	1.2	.95	.95	.96	10	11	2.9	5.2	2.1	1.5
30	1.6	1.3	1.2	.95	---	.79	9.5	8.9	2.9	4.8	1.8	2.1
31	2.0	---	1.2	.95	---	.74	---	8.9	---	4.8	2.1	---
TOTAL	29.33	51.7	44.8	28.63	29.42	25.01	402.71	499.0	139.1	197.3	81.9	41.62
MEAN	.95	1.72	1.45	.92	1.01	.81	13.4	16.1	4.64	6.36	2.64	1.39
MAX	2.0	2.1	1.9	1.2	1.3	.96	218	134	13	11	4.7	2.1
MIN	.57	1.1	1.2	.74	.74	.56	.74	6.0	2.9	2.1	1.8	.74
AC-FT	58	103	89	57	58	50	799	990	276	391	162	83

CAL YR 1975 TOTAL 2202.02 MEAN 6.03 MAX 80 MIN .57 AC-FT 4370
WTR YR 1976 TOTAL 1570.52 MEAN 4.29 MAX 218 MIN .56 AC-FT 3120

PEAK DISCHARGE (BASE, 100 FT³/S)

DATE	TIME	G.HT.	DISCHARGE
4-18	0630	4.32	1,390
5-7	0715	4.48	1,580
5-26	0230	2.70	114

LOCATION.--Lat 29°52'07", long 98°11'55", Comal County, in intake structure of Canyon Dam on Guadalupe River, 12 miles (19 km) northwest of New Braunfels, and at mile 303.0 (487.5 km).

PERIOD OF RECORD.--Contents: July 1962 to current year. Prior to October 1970, published as Canyon Reservoir.
Water quality: Chemical analyses: October 1969 to current year.

EXTREMES.--Current year: Maximum contents, 384,900 acre-ft (475 hm³) July 26 (elevation, 909.35 ft or 277.170 m); minimum, 340,700 acre-ft (420 hm³) Oct. 6 (elevation, 903.81 ft or 275.481 m).
Period of record: Maximum contents, 459,000 acre-ft (566 hm³) July 18, 1973 (elevation, 917.35 ft or 279.608 m); minimum observed since conservation pool first reached in April 1968, 340,700 acre-ft (420 hm³) Oct. 6, 1975 (elevation, 903.81 ft or 275.481 m).

REMARKS.--The lake is formed by a rolled earthfill dam 6,830 ft (2,082 m) long, consisting of the main dam 4,410 ft (1,344 m) long, an earthen dike 210 ft (64 m) long, a 1,260-foot (384-meter) long uncontrolled broad-crested type spillway, and a 950-foot (290-meter) concrete and earthen nonoverflow section. Deliberate impoundment of water began June 16, 1964, and main part of dam was completed in August 1964. The flood-control outlet works consist of a 10.0-foot-diameter (3.0-meter) conduit controlled by two 5.7-foot by 10.0-foot (1.7- by 3.0-meter) hydraulically operated slide gates. The lake was built for water conservation and flood control. Capacity table beginning Oct. 1, 1974, is based on a sedimentation survey of August 1972. Small diversions above the lake for irrigation. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	974.0	-
Crest of spillway.....	943.0	736,700
Top of conservation pool.....	909.0	382,000
Lowest gated outlet (invert).....	775.0	240

REVISIONS.--WSP 2123: Drainage area.

Capacity table (elevation, in feet, and contents, in acre-feet)

903.0	334,500	909.0	382,000
905.0	349,900	911.0	398,700
907.0	365,800		

CONTENTS. IN ACRE-FEET, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	341600	346000	350200	357800	356300	354800	352400	376300	379200	365600	382100	355200
2	341300	346300	350300	357800	356100	354700	352400	375200	378900	365300	381400	356000
3	341200	346600	350600	357600	356200	354600	352400	374600	378400	365100	380800	356400
4	340900	346600	350800	357300	356100	354800	352300	373300	377800	367000	380100	356100
5	340800	346800	351300	357300	356100	354600	352400	373900	377200	368400	379300	355700
6	340800	346900	351400	357300	356000	354500	352300	373300	376500	368800	378600	355000
7	340800	347100	351500	357200	358000	354700	352000	376900	375800	369100	377800	354000
8	340800	347200	351800	356900	355700	354800	354400	378300	375300	369400	377000	353100
9	340900	347400	352000	356900	355700	354800	354400	379900	374600	369700	376100	352000
10	341000	347000	352200	356900	355700	354400	354600	380500	373700	370500	375400	351100
11	341100	347500	352400	356900	355700	354400	354700	380500	372900	373000	374400	350100
12	341200	347500	352700	356900	355700	354400	354700	380700	372000	374900	373300	349100
13	341200	347500	353000	356900	355700	354300	354800	380700	371100	376000	372400	348100
14	341200	347600	353100	356900	355700	354200	354800	380500	369900	376900	371400	347700
15	341200	347700	353500	356400	355700	354300	355400	380300	369500	377700	370500	347800
16	341200	348000	353900	356400	355700	354100	355700	379900	368600	379000	369500	347700
17	341200	348100	354000	356600	356000	353800	356200	379400	367700	380900	369100	347500
18	341200	348500	354100	356600	355700	353800	372000	379100	366600	382200	368700	347300
19	341200	348900	354200	356800	355700	353700	375000	378300	365700	382800	367900	347300
20	341200	348800	354500	356700	356200	353600	377500	378400	364700	383200	367000	347500
21	341200	348800	354600	356500	355800	353500	378700	378000	364200	383600	366000	347400
22	341300	348900	354800	356500	355600	353400	379200	378000	364000	383700	365000	347100
23	341400	348900	355000	356500	355300	353300	379100	377700	363600	383700	364200	347000
24	341500	349100	356100	356900	355200	353400	378100	377100	363100	383700	363000	346900
25	343700	349200	356400	356400	355100	353400	384900	376400	363800	384300	362200	346700
26	344300	349200	356600	356000	355000	353500	388200	374100	365800	384700	361100	346500
27	344900	349200	357000	356500	355000	353300	377900	380000	366200	384400	360000	346800
28	345200	349600	357400	356500	354900	353200	377400	379900	366200	384100	359000	346200
29	345500	349900	357500	356500	354800	353100	377200	379500	366000	383800	357900	346900
30	345700	349900	357600	356500	---	352800	376800	379200	365900	383000	357000	349400
31	345900	---	357800	356500	---	352700	---	379500	---	382600	356200	---
(+)	904.48	905.00	906.00	905.83	905.62	905.35	908.37	908.70	907.02	909.07	905.80	904.93
(#)	+4100	+4000	+7900	-1300	-1700	-2100	+24100	+2700	-13600	+16700	-26400	-6800
MAX	345900	349900	357800	357800	356300	354800	379200	380700	379200	384700	382100	356400
MIN	340800	346000	350200	356500	354800	352700	348200	373300	363100	365100	356200	346500
CAL YR 1975.....			# -27100		MAX	431500		MIN	340800			
WTR YR 1976.....			# +7600		MAX	384700		MIN	340800			

† Elevation, in feet, at end of month.
* Change in contents, in acre-feet.

GUADALUPE RIVER BASIN

08167700 Canyon Lake near New Braunfels, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DISTOLVED OXYGEN (MG/L)	PERCENT SATURATION	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)
JAN 09...	1115	416	8.5	12.0	9.2	85	200	23
MAY 19...	1030	387	8.3	22.0	8.5	97	190	22
SEP 09...	1015	351	8.4	28.5	8.2	106	170	25

DATE	DISTOLVED CALCIUM (CA) (MG/L)	DISTOLVED MAGNESIUM (MG)	DISTOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISTOLVED PHOSPHATE (P) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISTOLVED SULFATE (SO4) (MG/L)	DISTOLVED CHLORIDE (CL) (MG/L)
JAN 09...	49	19	10	.3	2.9	216	0	18	16
MAY 19...	46	13	10	.3	1.9	203	0	18	17
SEP 09...	37	18	9.8	.3	1.9	168	2	18	16

DATE	DISTOLVED FLUORIDE (F) (MG/L)	DISTOLVED SILICA (SiO2) (MG/L)	DISTOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	DISTOLVED IRON (FE) (MG/L)	DISTOLVED MANGANESE (MN) (MG/L)
JAN 09...	.2	12	233	.29	.01	.00	10	0
MAY 19...	.2	11	222	.20	.00	.00	20	20
SEP 09...	.2	11	197	.02	.00	.01	20	10

GUADALUPE RIVER BASIN

257

08167800 Guadalupe River at Sattler, Tex.

LOCATION.--Lat 29°51'32", long 98°10'47", Comal County, on right bank 200 ft (61 m) upstream from Horseshoe Falls, 0.8 mile (1.3 km) north of Sattler, 1.8 miles (2.9 km) downstream from Canyon Dam, 2.3 miles (3.7 km) upstream from Heiser Hollow, 11.2 miles (18.0 km) north of New Braunfels, and at mile 301.2 (484.6 km).

DRAINAGE AREA.--1,436 mi² (3,719 km²), 1,432 mi² (3,709 km²) is above Canyon Dam.

PERIOD OF RECORD.--March 1960 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 742.24 ft (226.235 m) above mean sea level (Corps of Engineers bench mark).

AVERAGE DISCHARGE.--14 years (1962-76), 344 ft³/s (9.742 m³/s), 249,200 acre-ft/yr (307 hm³/yr) since regulation began at Canyon Lake.

EXTREMES.--Current year: Maximum discharge, 763 ft³/s (21.6 m³/s) May 7 (gage height, 5.93 ft or 1.807 m); minimum, 3.0 ft³/s (0.085 m³/s) Sept. 30.

Period of record: Maximum discharge, 20,800 ft³/s (589 m³/s) Oct. 29, 1960 (gage height, 12.20 ft or 3.719 m). Maximum discharge since closure of Canyon Dam on July 21, 1962, 5,390 ft³/s (153 m³/s) Feb. 11, 1975 (gage height, 8.18 ft or 2.493 m); no flow July 31 to Aug. 6, 1962 (result of closure of Canyon Dam), and part of Jan. 29, 30, Feb. 1, 1965 (result of closure while constructing control).

Flood in July 1869 (stage unknown) has not been exceeded since that date; flood in July 1900 (stage unknown) exceeded 39 ft (11.9 m); maximum stage since at least 1904, 39 ft (11.9 m) in July 1932 and June 1935, from information by local residents.

REMARKS.--Records good. Flow completely regulated since July 21, 1962, by Canyon Lake (station 08167700) 1.8 miles (2.9 km) upstream. Small diversions above station for irrigation.

REVISIONS.--WSP 2123: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	209	112	42	157	159	164	159	707	714	322	699	699
2	209	112	42	157	160	164	159	707	709	322	699	706
3	209	112	42	157	162	164	159	707	707	322	699	707
4	209	112	42	157	162	162	159	707	707	329	699	707
5	209	112	42	157	162	162	159	712	707	327	699	707
6	158	112	42	157	162	162	159	714	707	327	699	707
7	116	112	42	157	162	162	159	445	707	327	699	707
8	116	112	42	157	162	162	159	134	707	327	699	707
9	116	112	42	157	162	162	159	134	707	327	699	707
10	116	112	41	157	162	162	159	134	707	327	699	707
11	116	76	42	157	162	162	159	556	707	327	699	707
12	116	39	42	157	162	162	159	663	707	533	699	707
13	116	41	42	157	162	162	159	685	707	697	699	707
14	116	40	42	157	162	162	159	576	707	699	699	391
15	116	40	42	157	162	162	159	663	707	703	699	162
16	116	41	42	157	162	160	159	663	707	707	699	249
17	116	42	42	157	162	159	159	663	707	707	699	283
18	116	42	41	158	162	160	166	589	707	707	704	283
19	113	42	41	158	163	162	174	667	707	707	699	283
20	112	42	41	157	164	162	164	663	707	707	699	285
21	112	42	41	157	165	162	454	663	495	707	699	268
22	112	42	41	157	164	162	668	663	327	707	699	268
23	112	42	41	157	164	162	707	663	327	707	699	268
24	113	42	43	158	164	162	707	663	327	707	699	269
25	119	42	42	162	164	162	707	663	327	317	699	271
26	114	42	42	162	164	162	707	370	327	339	699	271
27	112	42	42	162	164	162	707	449	327	699	699	131
28	112	42	43	162	164	162	707	499	324	699	699	5.1
29	112	43	42	162	164	161	707	699	322	699	699	3.2
30	112	42	42	162	---	159	707	699	322	669	699	3.0
31	112	---	73	160	---	159	---	701	---	699	699	---
TOTAL	4062	1986	1328	4903	4715	5014	9985	18521	17574	16700	21674	12875.3
MEAN	131	66.2	42.6	158	163	162	333	597	586	539	699	429
MAX	209	112	73	162	165	164	707	714	714	707	704	707
MIN	112	39	41	157	159	159	159	134	322	317	699	3.0
AC-FT	8060	3940	2630	9730	9350	9950	19810	36740	34860	33120	42990	25540

CAL YR 1975 TOTAL 277575.0 MEAN 760 MAX 5190 MIN 12 AC-FT 550600
WTR YR 1976 TOTAL 119337.3 MEAN 326 MAX 714 MIN 3.0 AC-FT 236700

GUADALUPE RIVER BASIN

08168500 Guadalupe River above Comal River at New Braunfels, Tex.

LOCATION.--Lat 29°42'53", long 98°06'35", Comal County, on right bank at New Braunfels, 1.1 miles (1.8 km) upstream from Comal River, 21.9 miles (35.2 km) downstream from Canyon Lake, and at mile 281.1 (452.3 km).

DRAINAGE AREA.--1,518 mi² (3,932 km²).

PERIOD OF RECORD.--December 1927 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 586.65 ft (178.811 m) above mean sea level.

AVERAGE DISCHARGE.--34 years (1928-62) prior to regulation by Canyon Lake, 372 ft³/s (10.54 m³/s), 269,500 acre-ft/yr (332 hm³/yr); 14 years (1962-76) regulated, 429 ft³/s (12.15 m³/s), 310,800 acre-ft/yr (383 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 2,670 ft³/s (75.6 m³/s) May 7 (gage height, 4.30 ft or 1.311 m); minimum, 71 ft³/s (2.01 m³/s) Dec. 18.

Period of record: Maximum discharge, 101,000 ft³/s (2,860 m³/s) June 15, 1935 (gage height, 32.95 ft or 10.043 m); no flow July 8, 9, July 17 to Aug. 20, 1956.

Maximum stage since at least 1845, 38 ft (11.6 m) July 8, 1869, and in December 1913, from information by local residents.

REMARKS.--Records good. Small diversions for irrigation below station 08167800 and above this station. Since July 21, 1962, flow is largely regulated by Canyon Lake (station 08167700) 21.9 miles (35.2 km) upstream.

REVISIONS (WATER YEARS).--WSP 898: 1935. WSP 1562: 1932. WSP 2123: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	240	157	76	148	193	184	187	875	996	410	814	765
2	240	159	76	190	193	184	188	867	898	410	814	849
3	240	154	81	188	193	184	189	860	888	410	825	788
4	240	153	82	188	193	184	237	858	882	450	814	781
5	240	153	78	188	193	185	221	885	876	442	814	774
6	234	153	77	189	193	187	192	884	870	426	814	775
7	158	153	75	190	193	188	191	1300	870	410	814	770
8	153	153	75	188	193	188	194	425	870	410	814	770
9	153	154	75	188	193	185	188	365	866	410	814	758
10	153	149	75	190	198	184	188	355	859	410	814	770
11	153	149	75	192	198	188	186	900	859	434	814	770
12	153	97	75	191	198	187	184	871	856	517	814	781
13	153	78	76	193	198	186	184	946	848	836	814	781
14	152	82	76	191	198	191	185	907	845	859	814	659
15	152	82	85	193	198	192	186	878	856	870	811	193
16	150	84	81	193	193	189	208	866	870	894	800	269
17	154	84	76	193	188	188	193	853	870	882	808	338
18	157	83	73	193	188	188	339	799	865	882	811	338
19	157	85	73	195	178	191	351	811	865	870	809	338
20	157	83	75	195	179	191	357	850	870	870	787	345
21	158	79	74	193	194	188	397	843	758	859	781	338
22	159	79	74	193	184	190	817	836	431	859	781	318
23	161	78	73	193	184	188	890	834	426	854	781	325
24	158	78	97	194	183	189	882	825	426	848	781	325
25	209	78	93	198	182	188	887	825	431	714	781	325
26	213	78	80	192	183	188	874	787	426	173	776	327
27	172	77	77	192	184	188	870	437	418	783	770	310
28	165	79	76	192	184	188	868	889	414	832	770	149
29	161	82	75	193	184	188	902	883	410	836	770	102
30	158	79	75	193	---	186	879	882	410	807	776	92
31	157	---	75	191	---	188	---	891	---	801	767	---
TOTAL	5460	3232	2404	5900	5513	5812	12614	25287	22029	20468	24767	15223
MEAN	176	108	77.5	190	190	187	420	816	734	660	799	507
MAX	240	159	97	198	198	192	902	1300	996	894	825	849
MIN	150	77	73	148	178	184	184	355	410	173	767	92
AC-FT	10830	6410	4770	11700	10940	11530	25020	50160	43690	40600	49130	30190
CAL YR 1975	TOTAL	323267	MEAN 886	MAX 5460	MIN 73	AC-FT 641200						
WTR YR 1976	TOTAL	148709	MEAN 406	MAX 1300	MIN 73	AC-FT 295000						

GUADALUPE RIVER BASIN

259

08169000 Comal River at New Braunfels, Tex.

LOCATION.--Lat 29°42'21", long 98°07'20", Comal County, on right bank 200 ft (61 m) upstream from San Antonio Street viaduct in New Braunfels and 1.1 miles (1.8 km) upstream from mouth.

DRAINAGE AREA.--130 mi² (337 km²). Normal flow of river comes from springs; drainage area not applicable.

PERIOD OF RECORD.--1882 to current year (1882 to November 1927, discharge measurements only).

GAGE.--Water-stage recorder. Concrete control since Oct. 1, 1955. Datum of gage is 582.80 ft (177.637 m) above mean sea level.

AVERAGE DISCHARGE.--44 years (1932-76), 293 ft³/s (8.298 m³/s), 212,300 acre-ft/yr (262 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 5,680 ft³/s (161 m³/s) May 7 (gage height, 12.30 ft or 3.749 m); minimum daily, 308 ft³/s (8.72 m³/s) Mar. 2-5.

Period of record: Maximum discharge, 60,800 ft³/s (1,720 m³/s) May 11, 1972 (gage height, 36.55 ft or 11.140 m, from floodmark), from rating curve extended above 13,000 ft³/s (368 m³/s) on basis of contracted-opening measurements on Bladders and Dry Comal Creeks and unit rainfall-runoff studies; no flow from Comal Springs from June 13 to Nov. 3, 1956.

Flood information begins with flood of July 8, 1869, which reached a stage of 36.91 ft (11.250 m), from painted and dated marks in old Remmert Brewery 0.5 mile (0.8 km) downstream; the flood of Oct. 17, 1870, reached a stage of 37.65 ft (11.476 m) at same site (probably some backwater from Guadalupe River).

REMARKS.--Records good. The flow from Comal Springs emerges from the Edwards and associated limestones in the Balcones Fault Zone. Except during periods of rainfall, flow of river is primarily from Comal Springs about 1.0 mile (1.6 km) upstream. Diurnal fluctuations from steam powerplant 0.5 mile (0.8 km) upstream. At end of year, flow from 25.9 mi² (67.1 km²) above this station was partly controlled by three floodwater-retarding structures with a combined capacity of 6,420 acre-ft (7.92 hm³) below the flood-spillway crests, of which 260 acre-ft (0.321 hm³) is sediment-pool capacity. The capacity in these pools allocated to sediment storage will be used for conservation storage until eliminated by sedimentation.

REVISIONS.--WSP 2123: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	370	360	365	360	340	312	312	355	517	365	365	350
2	370	365	360	365	340	308	312	360	484	360	365	538
3	370	365	360	355	340	308	312	360	468	360	360	409
4	370	360	360	355	340	308	375	350	451	370	360	355
5	370	360	360	360	340	308	350	365	434	345	365	350
6	375	360	360	360	340	317	322	368	434	415	355	345
7	370	360	360	360	345	312	326	2040	429	402	355	345
8	370	360	360	360	345	312	317	551	424	370	355	340
9	365	360	360	355	350	312	317	418	424	370	350	340
10	370	365	360	355	345	317	317	407	418	380	350	340
11	365	360	360	355	340	322	317	402	407	385	350	345
12	365	355	360	361	340	322	317	402	402	385	350	345
13	365	355	360	355	340	322	317	468	407	380	345	345
14	365	355	360	350	335	322	322	424	402	446	345	350
15	365	360	355	350	335	330	326	412	396	462	345	350
16	365	360	360	345	335	326	350	412	390	429	345	345
17	360	360	360	345	345	326	330	412	385	478	340	340
18	360	360	360	345	330	322	407	412	385	396	345	340
19	360	360	360	345	330	326	365	407	385	396	350	350
20	360	360	360	345	326	330	396	424	385	385	345	355
21	355	360	360	340	330	322	355	456	385	380	350	350
22	355	360	360	340	326	326	335	424	391	385	350	350
23	355	360	360	340	330	317	330	418	372	375	350	355
24	350	365	385	340	326	322	340	412	380	370	345	350
25	407	365	365	345	322	322	345	412	375	375	345	350
26	375	365	365	340	322	326	340	771	375	375	345	350
27	370	365	360	340	322	322	335	566	370	375	345	355
28	360	365	360	340	312	322	335	484	375	375	345	458
29	365	365	360	345	312	326	625	451	370	375	345	380
30	355	365	360	345	---	314	375	434	365	370	366	365
31	360	---	360	340	---	312	---	429	---	370	350	---
TOTAL	11337	10835	11195	10836	9683	9893	10422	15006	12185	12044	10876	10840
MEAN	366	361	361	350	334	319	347	484	406	389	351	361
MAX	407	365	385	365	350	330	625	2040	517	478	366	538
MIN	350	355	355	340	312	304	312	350	365	360	340	340
AC-FT	22490	21490	22210	21490	19210	19620	20670	29760	24170	23890	21570	21500
CAL YR 1975 TOTAL	148946											
WTR YR 1976 TOTAL	135152											
MEAN 408												
MAX 2040												
MIN 350												
AC-FT 295400												
AC-FT 268100												

PEAK DISCHARGE (BASE, 1,100 FT³/S).--May 7 (1200) 5,680 ft³/s (12.30 ft).

GUADALUPE RIVER BASIN

08169580 Guadalupe River below New Braunfels, Tex.

LOCATION.--Lat 29°40'00", long 98°04'14", Comal County, in Lake Dunlap, 8 miles (13 km) southeast of New Braunfels, and 15 miles (24 km) downstream from Interstate Highway 35 bridge.

PERIOD OF RECORD.--Periodic chemical and biochemical analyses: January 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)
OCT. 28...	1035	522	7.4	21.0	8.2	91	.1	250	23
DEC. 09...	1100	554	7.6	19.0	9.8	104	1.1	280	40
FEB. 02...	1010	536	7.7	16.0	9.9	99	.8	250	26
APR. 12...	1000	546	7.8	24.0	9.3	109	.7	240	31
JUNE 14...	1015	477	7.4	23.5	9.4	113	1.1	220	16
AUG. 17...	1045	472	7.6	24.0	9.0	110	.7	220	24

DATE	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISSOLVED PHOSPHATE (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)
OCT. 28...	71	17	13	.4	1.6	274	0	23	20
DEC. 09...	81	18	14	.4	1.5	288	0	25	21
FEB. 02...	71	17	15	.4	1.6	270	0	23	23
APR. 12...	68	18	19	.5	1.6	260	0	24	30
JUNE 14...	60	17	12	.4	1.7	248	0	19	18
AUG. 17...	61	17	11	.3	1.7	242	0	20	18

DATE	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SI02) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)
OCT. 28...	--	12	293	1.3	.02	.07	.17	.04
DEC. 09...	.2	12	315	.89	.01	.03	.38	.07
FEB. 02...	.4	11	295	.54	.01	.07	.33	.06
APR. 12...	.3	12	301	.76	.02	.03	.35	.04
JUNE 14...	.2	10	260	.58	.01	.11	.23	.04
AUG. 17...	.3	11	259	.65	.01	.05	.22	.04

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LOCATION.--Lat 29°52'06", long 97°55'38", Hays County, on left bank 0.7 mile (1.1 km) downstream from bridge on Interstate Highway 35 and U.S. Highway 81, 1.2 miles (1.9 km) southeast of courthouse in San Marcos, and 2.1 miles (3.4 km) upstream from Blanco River.

PERIOD OF RECORD.--May 1956 to current year. June 1915 to January 1916, March 1916 to September 1921, and May to September 1956, published as San Marcos River at San Marcos; records include some surface runoff. Periodic measurements of spring flow were made at this location outside periods of record since Nov. 14, 1894, and are published as miscellaneous measurements.

AVERAGE DISCHARGE.--20 years (1956-76), 166 ft³/s (4,701 m³/s), 120,300 acre-ft/yr (148 hm³/yr).

EXTREMES.--Current year: Maximum daily spring discharge, 268 ft³/s (7.59 m³/s) July 17; maximum gage height, 15.48 ft (4.718 m) May 7 (flood runoff); minimum daily spring discharge, 121 ft³/s (3.43 m³/s) Apr. 14, 17.
Period of record: Maximum daily spring discharge, 316 ft³/s (8.95 m³/s) June 12, 1975; maximum discharge, 76,600 ft³/s (2,170 m³/s) May 15, 1970 (gage height, 35.12 ft on 10.705 m); minimum daily spring discharge, 46 ft³/s (1.30 m³/s) Aug. 15, 16, 1956.
Maximum stage since at least 1913, 38.6 ft (11.77 m) Sept. 10, 1921 (from floodmark), present datum (backwater from Blanco River).

REMARKS: --Records good. Flow slightly regulated by utilities dam about 1.5 miles (2.4 km) upstream. Entire flow of river is from San Marcos Springs about 1.8 mile (2.9 km) upstream, except during periods of local runoff. Springs emerge from the Edwards and associated limestones in the Balcones Fault Zone. Small diversion for operation of State fish hatchery, some of which is returned above gage.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	205	209	189	175	167	153	131	177	236	242	232	210
2	203	209	188	174	165	148	126	163	247	239	227	215
3	203	206	186	173	164	144	127	161	255	239	223	213
4	203	204	188	173	171	143	133	157	254	245	223	213
5	205	203	187	173	169	147	135	157	253	252	220	213
6	204	197	182	166	170	150	130	165	254	250	219	217
7	203	199	184	163	169	151	130	140	254	246	216	214
8	199	197	186	167	168	152	129	213	252	245	216	212
9	203	198	182	168	166	144	125	224	251	240	219	207
10	200	197	180	166	165	142	124	222	252	243	216	206
11	201	197	181	169	161	140	124	216	254	240	213	208
12	200	194	183	169	160	141	124	210	256	246	211	207
13	202	193	179	169	158	145	124	215	257	247	209	206
14	203	193	180	170	155	143	121	212	256	253	211	209
15	198	197	180	171	155	142	126	210	258	256	212	216
16	194	197	183	171	155	138	125	205	254	264	211	212
17	197	194	179	171	155	136	121	202	257	268	216	210
18	203	195	177	169	147	136	140	201	257	263	217	210
19	202	197	175	172	150	137	150	198	257	259	215	210
20	199	193	176	172	146	139	194	203	255	256	214	210
21	203	190	176	168	144	139	190	211	252	255	214	210
22	194	192	176	168	147	143	190	210	252	253	220	208
23	197	193	176	169	147	142	187	209	251	252	214	207
24	199	192	180	168	149	146	179	206	251	251	216	205
25	210	192	185	168	151	141	180	207	252	251	215	204
26	218	191	177	165	152	143	140	219	254	249	212	204
27	218	190	175	165	148	142	171	227	252	246	212	206
28	212	189	177	166	150	143	166	229	250	243	211	206
29	210	190	175	168	153	141	173	224	245	240	212	206
30	209	189	175	167	---	140	177	223	245	238	215	204
31	209	---	174	162	---	133	---	229	---	234	210	---
TOTAL	6311	5877	5591	5235	4562	4424	4422	6295	7577	7705	6691	6278
MEAN	204	196	180	169	157	143	147	203	253	249	216	209
MAX	218	209	189	175	171	153	190	229	258	268	232	217
MIN	196	189	174	162	144	133	121	157	236	234	204	204
AC-FT	12520	11660	11090	10380	9050	8780	8770	12490	15030	15280	13270	12450
CAL YR 1975	TOTAL	85748	MEAN	235	MAX	316	MIN	174	AC-FT	170100		

08171000 Blanco River at Wimberley, Tex.

LOCATION.--Lat 29°59'39", long 98°05'19", Hays County, on left bank at downstream side of highway, near left end of bridge on Ranch Road 12, 0.3 mile (0.5 km) southeast of Wimberley, 2,200 ft (671 m) downstream from Cypress Creek, and at mile 29.0 (46.7 km).

DRAINAGE AREA.--355 mi² (919 km²).

PERIOD OF RECORD.--Discharge: August 1924 to September 1926, June 1928 to current year.

Water quality: Chemical, biochemical, and pesticide analyses: January 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 797.23 ft (242.996 m) above mean sea level. Aug. 6, 1924, to Sept. 30, 1926, nonrecording gage at site 1,030 ft (314 m) upstream at datum 5.00 ft (1.524 m) higher. Recording gage June 6, 1928, to June 12, 1975, at site 1,000 ft (305 m) upstream at datum 5.00 ft (1.524 m) higher.

AVERAGE DISCHARGE.--50 years, 121 ft³/s (3.427 m³/s), 4.63 in/yr (118 mm/yr), 87,660 acre-ft/yr (108 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 14,200 ft³/s (402 m³/s) Apr. 18 (gage height, 14.12 ft or 4.304 m); minimum, 54 ft³/s (1.53 m³/s) Feb. 18.

Period of record: Maximum discharge, 113,000 ft³/s (3,200 m³/s) May 28, 1929 (gage height, 33.9 ft or 10.33 m, present site and datum, from floodmarks), from rating curve extended above 30,000 ft³/s (850 m³/s) on basis of slope-area measurements of 95,000 and 113,000 ft³/s (2,690 and 3,200 m³/s); minimum, 0.6 ft³/s (0.017 m³/s) Aug. 16, 1956.

Maximum stage since at least 1869, that of May 28, 1929; flood in July 1869 reached a stage of 26 ft (7.9 m), from information by local residents.

REMARKS.--Discharge records good. Numerous small diversions above station.

REVISIONS (WATER YEARS).--WSP 1562: 1929, 1930-31(M), 1935-36(M), 1938(M), 1941-42(M), 1947(M), 1949(M). WSP 2123: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	73	130	78	71	61	62	68	349	726	144	234	111
2	78	126	78	69	61	61	71	321	488	138	224	124
3	74	120	78	68	62	60	71	299	428	139	216	115
4	77	117	79	73	63	60	82	277	397	329	210	125
5	79	114	81	73	63	70	100	326	373	428	208	124
6	77	114	78	73	59	71	102	940	353	317	201	113
7	79	114	76	69	59	75	113	944	337	302	192	108
8	74	106	76	68	57	80	139	776	321	232	187	103
9	74	106	76	68	59	83	135	590	307	214	178	102
10	77	105	76	71	60	81	127	550	292	222	173	97
11	73	103	76	73	61	81	123	500	277	321	167	97
12	74	103	74	72	60	80	117	467	263	479	162	97
13	74	103	77	73	62	74	111	549	250	343	158	95
14	74	103	76	71	59	74	108	475	240	370	156	94
15	76	100	75	70	59	73	110	422	231	426	152	92
16	74	100	73	72	59	71	140	392	221	445	148	92
17	74	100	71	68	63	71	131	362	210	432	142	89
18	73	100	71	68	57	71	3550	341	202	399	139	89
19	73	100	71	69	60	71	1070	322	199	371	140	91
20	71	97	68	68	61	71	1020	320	193	348	143	98
21	72	94	68	64	70	68	766	411	196	335	143	106
22	73	94	68	66	61	68	637	332	176	327	136	105
23	74	89	68	67	60	68	555	304	165	312	132	100
24	94	92	84	71	60	71	560	307	160	297	126	97
25	336	86	77	76	63	71	703	325	183	323	120	93
26	254	83	73	65	62	71	440	1720	235	346	117	94
27	215	84	73	63	58	71	396	600	211	307	115	103
28	166	85	73	63	61	69	372	489	185	281	113	102
29	145	88	72	63	62	71	430	449	164	267	121	100
30	136	82	68	63	---	68	405	419	149	252	135	100
31	133	---	71	63	---	66	---	418	---	242	115	---
TOTAL	3213	3039	2305	2131	1762	2202	12752	15296	8132	9728	4903	3056
MEAN	104	101	74.4	68.7	60.8	71.0	425	493	271	314	158	102
MAX	336	130	84	76	70	83	3550	1720	726	479	234	125
MIN	71	82	68	63	57	60	68	277	149	138	113	89
AC-FT	6370	6030	4570	4230	3490	4370	25290	30340	16130	19300	9730	6060

CAL YR 1975 TOTAL 93737 MEAN 257 MAX 2980 MIN 68 AC-FT 185900

WTR YR 1976 TOTAL 68519 MEAN 187 MAX 3550 MIN 57 AC-FT 135900

PEAK DISCHARGE (BASE, 1,800 FT³/S)

DATE	TIME	G.HT.	DISCHARGE
4-18	1030	14.12	14,200
5-6	0400	6.65	1,950
5-26	0930	8.72	4,480

08171000 Blanco River at Wimberley, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	DIO- CHEM- ICAL OXYGEN DEMAND (MG/L)	IMME- DIATE COLI- FORM (COL. PER 100 ML)	FECAL COLI- FORM (COL. PER 100 ML)
OCT 21...	1935	74	484	7.7	24.5	0	1	9.4	112	.9	220	24
DEC 04...	1515	76	475	7.4	16.5	0	1	10.6	108	1.1	920	220
FEB 19...	1510	60	473	8.1	20.5	0	1	9.8	108	1.0	300	7
APR 12...	1110	115	447	7.7	21.5	0	1	9.4	106	.2	140	79
JUN 07...	1130	335	450	7.8	25.	0	15	8.8	109	.3	160	32
AUG 09...	1139	175	441	7.8	24.5	0	4	8.8	114	.0	700	110

DATE	STREPTO- COCCUS (COL- ONIES PER 100 ML)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AU- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
OCT 21...	200	240	33	68	18	8.8	.2	1.3	258	0	26	14
DEC 04...	30	250	21	70	18	8.4	.2	1.3	278	0	26	13
FEB 19...	21	240	36	65	19	8.3	.2	1.1	250	0	27	13
APR 12...	160	230	25	60	19	8.4	.2	1.2	248	0	22	13
JUN 07...	90	230	16	66	15	7.5	.2	1.2	257	0	15	11
AUG 09...	120	220	20	63	15	8.3	.2	1.2	243	0	16	12

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L)	TOTAL NON- FIL- TRABLE RESIDUE (MG/L)	VOL- NON- FIL- TRABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
OCT 21...	--	11	275	3	1	.66	.01	.05	.43	.00	2.0
DEC 04...	.2	9.1	283	3	1	.57	.00	.01	.04	.00	2.0
FEB 19...	.3	8.9	267	4	1	.35	.01	.02	.22	.01	1.0
APR 12...	.4	8.0	254	1	0	.40	.00	.01	.12	.01	4.6
JUN 07...	.4	11	254	5	2	.41	.00	.01	.31	.01	7.6
AUG 09...	.2	12	242	10	3	.45	.00	.01	.04	.02	.0

GUADALUPE RIVER BASIN

08171000 Blanco River at Wimberley, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		DIS-SOLVED ALUMINUM (AL) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	DIS-SOLVED CHROMIUM (CR) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)					
DATE	TIME												
OCT. 21...	1935	0	0	50	0	0	0	0					
FEB. 19...	1510	0	1	60	0	2	1	7					
		DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MANGANESE (MN) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED STRONTIUM (SR) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)				
DATE	TIME												
OCT. 21...		0	0	3	0	.3	0	640	3				
FEB. 19...		0	0	0	0	.1	0	600	0				
		POLY-CHLORINATED NAPHTHALENES (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLORDANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DIAZINON (UG/L)	TOTAL DIELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)		
DATE	TIME	TOTAL PCB (UG/L)											
OCT. 21...	1935	.0	--	.00	.0	.00	.00	.00	.00	.00	.00		
FEB. 19...	1510	.0	.00	.00	.0	.00	.00	.00	.00	.00	.00		
AUG. 09...	1139	.0	.00	.00	.0	.00	.00	.00	.00	.00	.00		
DATE	TIME	TOTAL HEPTACHLOR (UG/L)	TOTAL HEPTACHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALATHION (UG/L)	TOTAL METHYL PARATHION (UG/L)	TOTAL METHYL TRIETHION (UG/L)	TOTAL PARATHION (UG/L)	TOTAL TOXAPHENE (UG/L)	TOTAL TRIETHION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
OCT. 21...		.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00	.00
FEB. 19...		.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00	.00
AUG. 09...		.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00	.00

GUADALUPE RIVER BASIN

265

08171300 Blanco River near Kyle, Tex.

LOCATION.--Lat 29°58'45", long 97°54'35", Hays County, on left bank 800 ft (240 m) downstream from Tarbutton Ranch House (Hatchett Ranch), 2.2 miles (3.5 km) southwest of Kyle, 4.2 miles (6.8 km) downstream from Halifax Creek, and 6.3 miles (10.1 km) upstream from bridge on U.S. Highway 81.

DRAINAGE AREA.--412 mi² (1,067 km²).

PERIOD OF RECORD.--May 1956 to current year.

GAGE.--Water-stage recorder. Datum of gage is 620.12 ft (189.013 m) above mean sea level, Corps of Engineers bench mark.

AVERAGE DISCHARGE.--20 years, 154 ft³/s (4.361 m³/s), 5.08 in/yr (129 mm/yr), 111,600 acre-ft/yr (138 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 19,600 ft³/s (555 m³/s) Apr. 18 (gage height, 20.88 ft or 6.364 m); minimum, 24 ft³/s (0.680 m³/s) Mar. 29.

Period of record: Maximum discharge, 98,000 ft³/s (2,780 m³/s) May 2, 1958 (gage height, 36.3 ft or 11.06 m, from floodmark), from rating curve extended above 37,000 ft³/s (1,050 m³/s) on basis of slope-area measurement of 139,000 ft³/s (3,940 m³/s) and slope-conveyance study; no flow at times in 1956-57, 1963-65, 1967, 1971.

Maximum stage since at least 1882, about 40 ft (12.2 m) in May 1929, from information by local residents (discharge, 139,000 ft³/s or 3,940 m³/s). Flood of Sept. 11, 1952, reached a stage of 38.0 ft or 11.58 m (discharge, 115,000 ft³/s or 3,260 m³/s).

REMARKS.--Records good. Small diversions above station for irrigation. Most of the low flow of the Blanco River enters the Edwards and associated limestones in the Balcones Fault Zone which crosses the basin upstream from this station and below the station at Wimberley.

REVISIONS (WATER YEARS).--WSP 1923: 1957-58, 1960(M). WSP 2123: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	98	48	45	36	30	28	394	1150	122	196	75
2	44	94	49	44	37	31	29	347	602	115	146	88
3	43	89	50	42	36	28	31	314	494	115	176	88
4	44	82	51	42	37	28	38	236	449	144	168	80
5	44	78	51	41	37	34	39	423	417	440	161	94
6	43	76	49	42	35	37	54	1130	394	393	154	80
7	43	73	47	42	34	38	64	1530	364	304	147	74
8	43	70	47	39	34	40	22	1010	349	240	138	69
9	43	69	48	39	35	43	94	716	327	205	131	66
10	43	65	47	40	35	43	84	664	305	212	124	64
11	40	62	47	41	35	42	80	595	284	250	118	64
12	40	61	47	40	34	41	74	539	264	441	114	64
13	40	59	46	41	34	40	71	628	252	397	109	62
14	40	58	46	40	34	42	67	574	234	369	106	61
15	40	57	51	39	32	37	67	439	226	463	102	59
16	39	59	48	38	32	36	98	446	221	560	99	57
17	38	54	45	38	33	34	93	406	205	521	98	55
18	38	57	43	38	33	33	4360	375	197	441	99	54
19	39	57	43	39	31	33	1430	451	19	392	94	55
20	38	55	43	41	32	34	1220	355	183	397	95	60
21	34	53	43	37	35	32	971	428	174	334	96	63
22	39	53	42	36	35	32	750	472	167	323	91	67
23	41	53	42	38	32	31	646	323	154	305	86	67
24	61	54	52	38	30	33	542	306	153	245	83	64
25	536	52	57	46	30	34	829	328	159	291	81	61
26	436	53	51	42	30	33	522	1450	181	349	79	60
27	244	52	50	38	30	31	456	734	201	248	79	62
28	173	53	50	37	29	29	421	548	171	254	75	65
29	134	55	49	37	29	29	457	448	154	236	73	67
30	114	54	46	37	---	30	441	455	135	229	68	66
31	107	---	46	37	---	24	---	330	---	207	61	---
TOTAL	2760	1911	1474	1234	967	1066	14308	17874	4764	9647	3533	2011
MEAN	89.0	63.7	47.5	39.8	33.3	34.4	477	577	292	311	114	67.0
MAX	536	59	57	46	37	43	4360	1430	1150	560	196	94
MIN	38	52	42	36	28	28	28	246	135	115	73	54
AC-FT	5470	3790	2920	2450	1920	2110	28380	32450	17380	14130	7010	3990

CAL YR 1975 TOTAL 94290 MEAN 258 MAX 3620 MIN 38 AC-FT 184900
WTR YR 1976 TOTAL 65549 MEAN 179 MAX 4350 MIN 28 AC-FT 139000

PEAK DISCHARGE (BASE, 1,500 FT³/S)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
4-18	1330	20.88	19,600	5-26	1215	12.99	4,640
4-25	0430	9.38	1,600	6-1	0015	13.00	4,650
5-7	0845	12.53	4,140				

GUADALUPE RIVER BASIN

08172000 San Marcos River at Luling, Tex.

LOCATION.--Lat 29°39'54", long 97°38'59", Caldwell-Guadalupe County line, on left bank 390 ft (119 m) downstream from bridge on State Highway 80, 1.0 mile (1.6 km) south of U.S. Post Office at Luling, and 9.4 miles (15.1 km) upstream from Plum Creek.

DRAINAGE AREA.--838 mi² (2,170 km²).

PERIOD OF RECORD.--Discharge: April 1939 to current year.

Water quality: Chemical analyses: September 1961 to April 1966, October 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 322.05 ft (98.161 m) above mean sea level.

AVERAGE DISCHARGE.--37 years, 363 ft³/s (10.28 m³/s), 263,000 acre-ft/yr (324 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 14,300 ft³/s (405 m³/s) May 7 (gage height, 30.31 ft or 9.238 m); minimum, 167 ft³/s (4.73 m³/s) Apr. 3, 4.

Period of record: Maximum discharge, 57,000 ft³/s (1,610 m³/s) Sept. 12, 1952 (gage height, 34.95 ft or 10.653 m); minimum daily, 43 ft³/s (1.22 m³/s) Aug. 12, 1951.

Maximum stage since at least 1859, 40.4 ft (12.31 m) in 1869 or 1870, from information by State Highway Department. Flood of May 29, 1929, reached a stage of 37.1 ft (11.31 m) and is the second highest known.

REMARKS.--Discharge records good. At end of year, flow from 71.3 mi² (185 km²) above this station was partly controlled by 17 floodwater-retarding structures with a combined detention capacity of 18,250 acre-ft (22.5 hm³). Base flow is largely maintained by spring flow near San Marcos. Several diversions above station for irrigation.

REVISIONS (WATER YEARS).--WSP 958: 1940. WSP 1312: 1940(M), 1945(M), 1947(M). WSP 2123: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	262	333	247	228	206	188	170	783	5580	441	502	335
2	254	326	245	227	207	189	170	551	2570	425	492	340
3	253	315	245	222	206	186	168	575	1270	417	474	350
4	251	305	250	219	204	183	278	27	1060	434	463	344
5	249	244	255	214	211	182	1530	497	943	545	456	334
6	248	300	256	218	205	278	555	555	841	759	447	344
7	248	279	251	219	203	359	375	6810	771	773	440	336
8	246	274	245	221	204	226	1210	6020	720	622	432	324
9	247	272	241	221	204	220	407	1730	686	566	424	316
10	245	267	237	221	205	204	294	1350	660	623	414	308
11	240	257	236	220	204	206	266	1200	638	735	403	303
12	239	256	234	220	201	204	254	1140	617	575	395	304
13	235	255	238	221	197	200	246	2790	602	698	389	322
14	234	250	238	214	195	203	238	1270	586	723	384	304
15	235	250	240	216	194	202	234	998	575	2010	380	302
16	224	254	246	217	193	200	1540	865	886	1130	376	300
17	223	255	244	215	194	193	591	785	568	1050	373	295
18	222	255	234	215	197	189	2520	719	539	825	380	291
19	222	257	229	220	189	186	4590	667	762	712	377	298
20	223	266	227	259	190	188	2730	789	651	654	371	304
21	220	251	227	234	211	186	1830	1260	516	622	360	319
22	220	240	227	220	200	186	1260	771	499	629	360	303
23	226	242	225	216	193	186	1040	670	489	612	356	294
24	221	245	251	215	194	188	899	594	470	594	348	297
25	321	244	411	222	193	191	1010	562	464	580	343	291
26	1010	246	312	224	192	187	1020	3820	466	575	338	293
27	723	243	259	220	191	185	763	3010	495	596	334	298
28	512	246	243	212	189	183	672	1280	514	572	330	370
29	432	254	237	209	188	184	1480	1040	477	544	334	348
30	380	257	231	210	---	179	989	897	458	530	332	308
31	351	---	229	210	---	169	---	404	---	513	339	---
TOTAL	9423	7978	7694	6827	5766	6216	29329	45429	26373	21084	12146	9475
MEAN	304	266	248	220	199	201	978	1465	879	680	392	316
MAX	1010	333	411	259	211	359	4590	6810	5580	2010	502	370
MIN	220	240	225	209	188	169	168	497	458	417	330	291
AC-FT	18690	15820	15260	13540	11440	12330	58170	90110	52310	41820	24090	18790
CAL YR 1975 TOTAL	248556			MEAN 681	MAX 19200	MIN 220	AC-FT 493000					
WTR YR 1976 TOTAL	187740			MEAN 513	MAX 6610	MIN 108	AC-FT 372400					

PEAK DISCHARGE (BASE, 2,900 FT³/S)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
4-19	1400	26.22	6,490	5-26	1800	24.96	5,450
5-7	2000	30.31	14,300	6-1	1500	28.19	8,820
5-13	1200	20.67	3,450	7-15	1000	19.01	2,930

GUADALUPE RIVER BASIN

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08172000 San Marcos River at Luling, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO- MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG)	DISSOLVED SODIUM (NA) (MG/L)
OCT. 16...	1125	229	638	8.2	22.5	299	44	84	20	21
NOV. 24...	1425	237	491	8.2	13.5	210	46	51	19	21
JAN. 07...	1135	219	605	7.9	12.0	270	36	75	19	21
FEB. 19...	1220	190	660	8.2	19.0	300	44	87	19	23
MAR. 31...	1140	160	650	8.2	19.0	290	47	85	20	23
MAY 17...	1230	833	583	8.2	22.0	250	32	75	16	22
JUNE 23...	1230	491	614	8.3	24.0	270	39	78	18	23
AUG. 03...	1630	481	562	8.2	27.0	240	32	65	18	22
SEP. 13...	1220	298	518	8.1	25.0	210	27	63	13	23

DATE	SODIUM AD- SORP- TION RATIO	DISSOLVED PO- TAS- SIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLO- RIDE (CL) (MG/L)	DISSOLVED FLUO- RIDE (F) (MG/L)	DISSOLVED SILICA (SiO2) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
OCT. 16...	.5	1.7	302	0	25	36	.2	11	348
NOV. 24...	.6	1.6	195	0	28	35	.4	9.9	262
JAN. 07...	.6	1.6	280	0	30	36	.3	9.3	330
FEB. 19...	.6	1.8	306	0	31	42	.3	12	367
MAR. 31...	.6	1.8	302	0	32	41	.3	11	363
MAY 17...	.6	2.0	270	0	29	37	.3	11	325
JUNE 23...	.6	1.8	280	0	27	40	.3	12	338
AUG. 03...	.6	1.8	249	0	27	39	.2	9.1	305
SEP. 13...	.7	2.5	224	0	23	36	.3	8.4	280

GUADALUPE RIVER BASIN

08172400 Plum Creek at Lockhart, Tex.

LOCATION.--Lat 29°55'22", long 97°40'44", Caldwell County, on right bank 548 ft (167 m) upstream from bridge on U.S. Highway 183, 2.7 miles (4.3 km) north of Lockhart, 3.7 miles (6.0 km) upstream from Town Creek, 5.0 miles (8.0 km) downstream from Brushy Creek, and at mile 30.4 (48.9 km).

DRAINAGE AREA.--112 mi² (290 km²).

PERIOD OF RECORD.--April 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is 431.19 ft (131.427 m) above mean sea level. Apr. 30, 1959, to July 25, 1968, at site 548 ft (167 m) downstream at present datum.

AVERAGE DISCHARGE.--17 years, 50.4 ft³/s (1.427 m³/s), 36,510 acre-ft/yr (45.0 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 8,420 ft³/s (238 m³/s) June 1 (gage height, 16.98 ft or 5.176 m); no flow for many days. Period of record: Maximum discharge, 26,600 ft³/s (753 m³/s) Oct. 29, 1960 (gage height, 20.62 ft or 6.285 m); no flow at times each year.

Maximum stage since at least 1905, 22 ft (6.7 m) in June 1936 at present site; flood in 1951 reached a stage of 20 ft (6.1 m) at present site, from information by local resident.

REMARKS.--Records good. No known diversion above station. Flow at times is affected by discharge from the flood-detention pools of 17 floodwater-retarding structures with combined detention capacity of 24,850 acre-ft (30.6 hm³). These structures control runoff from 67.8 mi² (175.6 km²) above this station.

REVISIONS.--WSP 2123: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	12	1.6	9.4	3.8	1.3	.70	94	2530	5.3	1.5	0
2	0	4.5	1.6	8.6	3.9	1.3	.67	67	567	2.7	1.2	0
3	0	8.3	1.5	7.6	4.3	1.3	.70	50	495	1.7	.76	0
4	0	7.6	1.3	7.0	4.3	1.3	108	39	438	1.5	.55	0
5	0	6.5	1.3	6.2	4.3	1.4	1020	34	391	1.6	.43	0
6	0	5.6	3.7	5.7	4.3	1.9	255	247	320	52	.33	0
7	0	4.4	2.0	5.3	4.3	4.9	437	2280	234	29	.22	0
8	0	4.3	1.6	4.7	4.2	5.5	1400	456	169	15	.17	0
9	0	3.7	1.5	4.3	4.1	5.4	453	606	103	9.4	.13	0
10	0	3.0	1.4	4.3	4.1	4.1	246	496	63	9.8	.09	0
11	0	2.4	1.2	4.0	4.1	3.4	173	404	45	13	.07	0
12	0	1.9	1.2	3.9	4.1	2.8	108	366	35	11	.05	2.0
13	0	1.5	1.2	3.9	4.0	2.4	76	430	28	10	.03	2.3
14	0	1.3	1.1	4.1	3.9	2.4	56	316	23	27	.02	.90
15	0	1.1	1.2	3.7	3.9	2.3	45	205	19	149	.01	.26
16	0	1.1	1.8	3.5	3.9	2.0	316	141	15	98	0	.11
17	0	.98	2.6	3.2	5.7	1.8	145	96	14	89	0	.06
18	0	.98	2.3	2.9	5.6	1.8	1470	71	13	36	0	.03
19	0	1.1	1.7	3.0	3.1	1.7	795	57	17	20	0	.01
20	0	1.3	1.6	3.9	2.4	1.5	984	1510	18	13	0	.02
21	0	1.9	1.4	4.3	2.6	1.5	466	575	15	9.9	0	.02
22	0	1.7	1.2	3.7	2.1	1.2	346	302	12	8.1	0	.01
23	0	1.3	1.2	3.4	1.9	1.1	242	230	9.6	6.7	0	0
24	0	1.1	.88	3.2	1.7	1.0	176	162	4.4	5.9	0	0
25	795	.79	94	36	1.6	1.1	147	106	5.5	5.3	0	0
26	805	.85	28	7.8	1.5	1.4	93	480	5.1	4.7	0	0
27	130	.94	14	5.8	1.4	1.6	68	268	5.0	4.7	0	0
28	62	1.3	15	4.8	1.3	1.5	55	163	3.9	3.9	0	.09
29	33	1.1	13	4.3	1.3	1.4	399	103	3.5	3.3	0	.07
30	21	1.4	12	4.1	---	1.1	157	74	3.0	2.4	0	.05
31	15	---	10	4.1	---	.86	---	51	---	1.8	0	---
TOTAL	1861	41.43	315.2	180.7	37.7	64.66	10288.07	11379	5604.4	650.7	5.56	5.93
MEAN	60.0	3.05	10.2	5.83	3.37	2.09	343	367	187	21.0	.18	.20
MAX	805	12	94	36	5.7	5.8	1470	2280	2530	149	1.5	2.3
MIN	0	.78	1.1	2.9	1.3	.86	.67	34	3.0	1.5	0	0
AC-FT	3690	181	625	358	194	128	20410	22570	11120	1290	11	12
CAL YR 1975	TOTAL	39709.14	MEAN	109	MAX	1700	MIN	0	AC-FT	78760		
WTR YR 1976	TOTAL	30544.35	MEAN	83.5	MAX	2530	MIN	0	AC-FT	60540		

PEAK DISCHARGE (BASE, 2,000 FT³/S)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
10-26	0430	14.63	2,130	5-7	1430	16.16	5,500
4-8	0230	15.09	2,700	5-20	1900	16.11	5,320
4-18	1330	15.03	2,620	6-1	0700	16.98	8,420

08173000 Plum Creek near Luling, Tex.

LOCATION.--Lat 29°41'58", long 97°36'12", Caldwell County, near left bank on downstream side of pier of bridge on county road, 1.2 miles (1.9 km) upstream from West Fork, 1.9 miles (3.1 km) upstream from Southern Pacific Railroad Co. bridge, 2.2 miles (3.5 km) upstream from McNeil Creek, 3.0 miles (4.8 km) northeast of Luling, and at mile 7.3 (11.7 km).

DRAINAGE AREA.--309 mi² (800 km²).

PERIOD OF RECORD.--Discharge: March 1930 to current year.

Water quality: Chemical analyses: October 1967 to current year. Water temperatures: October 1967 to current year.

GAGE (revised).--Water-stage recorder. Datum of gage is 321.57 ft (98.015 m) above mean sea level. Prior to Aug. 18, 1976, at datum 5 ft (1.5 m) higher.

AVERAGE DISCHARGE.--46 years, 103 ft³/s (2.917 m³/s), 74,620 acre-ft/yr (92.0 hm³/yr).

EXTREMES.--Discharge: Current year: Maximum discharge, 8,660 ft³/s (245 m³/s) May 7 (gage height, 22.53 ft or 6.867 m, present datum); minimum, 4.6 ft³/s (0.13 m³/s) Oct. 2, 3.

Period of record: Maximum discharge, 78,500 ft³/s (2,220 m³/s) July 1, 1936 (gage height, 30.7 ft or 9.36 m, from floodmarks, present datum), from rating curve extended above 37,500 ft³/s (1,060 m³/s); no flow at times.

Historic: Maximum stage since at least 1868, that of July 1, 1936; flood in December 1913 reached about same stage, from information by local residents.

Water quality: Current year: Maximum daily specific conductance, 4,200 micromhos Feb. 5; minimum daily, 200 micromhos May 8. Maximum water temperatures, 30.0°C on several days during summer months; minimum, 8.0°C Jan. 8.

Period of record: Maximum daily specific conductance, 4,770 micromhos Aug. 26, 1975; minimum daily, 148 micromhos Dec. 1, 1968.

Maximum water temperatures, 35.0°C July 24, 1969; minimum, 4.0°C Jan. 4, 1968.

REMARKS.--Discharge records fair. Low flow is slightly regulated by oilfield operation above station. At end of year, flow from 119 mi² (308 km²) above this station was partly controlled by 27 floodwater-retarding structures with a combined detention capacity of 41,840 acre-ft (51.6 hm³). No known diversion above station.

REVISIONS (WATER YEARS).--WSP 1923: 1933. WSP 2123: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.4	35	14	30	20	14	11	290	3350	28	16	9.2
2	6.3	31	13	29	20	13	10	176	2960	28	15	8.4
3	4.8	24	14	26	20	14	9.1	137	865	27	15	12
4	5.4	24	14	25	21	13	35	115	648	25	14	11
5	6.0	22	14	24	21	13	2180	102	583	34	13	9.7
6	6.3	21	17	24	21	18	2430	119	520	33	13	8.5
7	6.4	20	34	23	20	42	590	4130	395	83	13	8.3
8	6.7	18	19	21	20	29	4850	5690	276	69	12	7.9
9	21	17	16	20	21	27	2640	2030	190	51	12	6.5
10	8.9	16	15	21	21	24	815	975	145	43	12	8.4
11	8.7	14	14	21	21	20	568	722	117	59	11	6.4
12	8.4	13	14	21	21	18	372	592	104	54	11	6.7
13	8.1	11	14	21	21	16	243	2220	96	51	11	8.3
14	7.1	11	15	21	21	18	183	1280	88	40	11	31
15	7.0	12	15	21	20	17	145	482	82	138	11	14
16	7.5	12	16	21	20	16	1260	284	117	207	11	9.8
17	7.6	12	16	20	21	15	1370	196	78	265	9.7	8.7
18	7.7	12	16	20	26	14	2470	158	59	111	8.3	7.9
19	7.3	12	15	21	24	14	4370	134	72	72	12	8.0
20	7.5	15	15	45	18	15	2320	229	70	52	13	13
21	7.5	15	15	33	24	14	2020	3140	59	41	14	15
22	6.3	13	14	29	23	13	622	1580	53	37	11	11
23	12	12	15	26	16	13	567	556	48	33	9.7	8.7
24	12	12	16	24	15	13	404	384	44	34	9.7	8.3
25	121	12	182	56	14	14	488	219	37	27	8.8	8.1
26	1130	12	96	71	14	14	265	3360	38	24	8.7	7.9
27	550	11	59	30	14	13	171	2340	37	23	8.7	9.0
28	132	12	45	25	14	13	140	878	35	21	8.4	43
29	44	14	38	23	14	13	681	418	32	20	11	54
30	56	14	34	22	---	12	867	264	29	19	12	17
31	44	---	32	21	---	11	---	175	---	17	11	---
TOTAL	2318.3	483	866	835	571	513	33296.1	33375	11227	1766	357.0	385.7
MEAN	74.8	16.1	27.9	26.9	19.7	16.5	1110	1077	374	57.0	11.5	12.9
MAX	1130	35	182	71	29	42	4850	5690	3350	265	16	54
MIN	4.4	11	13	20	14	11	9.1	102	29	17	8.3	6.4
AC-FT	4600	958	1720	1660	1130	1020	66040	66200	22270	3500	708	765

CAL YR 1975 TOTAL 101046.4 MEAN 277 MAX 16300 MIN 4.8 AC-FT 200400
WTR YR 1976 TOTAL 85993.1 MEAN 235 MAX 5690 MIN 4.8 AC-FT 170600

PEAK DISCHARGE (BASE, 2,300 FT³/S)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
4- 5	2300	20.28	3,500	5-13	1600	19.70	3,060
4- 8	1400	22.42	8,240	5-21	1900	21.19	4,630
4-16	2100	18.59	2,400	5-26	1400	21.40	5,010
4-19	0200	21.56	5,320	6- 1	1300	21.38	4,980
5- 7	2300	22.53	8,660				

GUADALUPE RIVER BASIN

08173000 Plum Creek near Luling, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPF- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)
OCT.										
31...	0900	47	620	8.4	20.0	190	49	66	5.4	49
NOV.										
30...	1100	16	1470	8.1	14.0	410	130	140	14	150
DEC.										
31...	0900	32	916	8.2	10.0	280	96	97	9.9	76
JAN.										
07...	1000	23	1080	7.7	8.0	320	94	110	11	94
FEB.										
19...	0940	24	1520	7.8	15.5	380	180	130	14	170
MAR.										
31...	0945	11	1450	8.1	15.0	390	120	130	16	150
31...	1500	11	1440	8.0	22.0	410	140	140	15	140
APR.										
30...	1400	755	424	7.8	20.0	140	35	50	4.8	25
MAY										
17...	1015	188	642	7.8	23.0	210	63	71	6.8	45
JUNE										
23...	0945	49	978	8.0	25.0	290	90	99	9.3	82
JULY										
31...	1700	30	1430	7.8	30.0	400	140	140	13	150
AUG.										
31...	1700	8.5	1350	8.1	28.0	380	86	130	13	140
SEP.										
30...	1800	13	862	7.9	26.0	230	76	80	8.2	76

DATE	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
OCT.									
31...	1.6	4.8	164	2	59	66	.5	13	347
NOV.									
30...	3.2	5.2	342	0	120	230	.5	17	845
DEC.									
31...	2.6	5.8	228	0	88	130	.5	14	534
JAN.									
07...	2.4	3.8	276	0	97	150	.6	13	619
FEB.									
19...	3.8	4.5	246	0	93	310	.6	14	857
MAR.									
31...	3.3	3.8	328	0	120	230	.5	14	826
31...	3.0	5.0	334	0	120	230	.6	15	830
APR.									
30...	.9	6.5	134	0	31	37	.5	14	235
MAY									
17...	1.4	4.0	174	0	62	74	.3	14	363
JUNE									
23...	2.1	3.7	238	0	77	150	.5	13	552
JULY									
31...	3.3	5.4	322	0	120	220	1.3	17	825
AUG.									
31...	3.1	4.8	356	0	110	200	.6	20	794
SEP.									
30...	2.2	4.4	142	0	62	130	.4	14	470

GUADALUPE RIVER BASIN

271

08173000 Plum Creek near Luling, Tex.--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

MONTH	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA+MG) (MG/L)
OCT. 1975.....	2318.3	611	350	2190	77	481	50	314	180
NOV. 1975.....	483	1010	580	756	140	187	85	111	290
DEC. 1975.....	866	1170	670	1580	170	397	99	231	340
JAN. 1976.....	835	1260	720	1620	180	414	110	238	360
FEB. 1976.....	557	1370	780	1180	200	304	120	174	390
MAR. 1976.....	513	1340	770	1070	200	273	110	158	380
APR. 1976.....	33296.09	371	210	19200	37	3350	30	2680	120
MAY 1976.....	33375	360	210	18800	35	3180	29	2600	110
JUNE 1976.....	11227	404	240	7130	43	1290	33	994	130
JULY 1976.....	1766	885	510	2420	120	580	74	354	260
AUG. 1976.....	356	1400	800	772	210	200	120	114	400
SEPT 1976.....	385.7	1260	720	753	180	193	110	110	360
TOTAL	85979	**	**	57500	**	10800	**	8080	**
WTD.AVG.	235.56	429	250	**	46	**	35	**	130

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C) - WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1240	682	1370	1290	1200	1290	1480	498	270	632	554	1350
2	1320	387	1280	1330	1220	1510	1490	1450	427	1200	1460	1340
3	1330	485	1730	987	1250	1480	1450	691	348	2900	1120	1470
4	3610	846	1310	1640	1250	1330	1450	1400	383	970	927	1400
5	1380	895	1350	1030	4200	1260	476	1580	384	1270	1440	1430
6	1480	1350	1280	683	1360	1310	331	857	461	1250	1070	1330
7	1920	920	1080	1080	1280	1380	280	220	438	1110	1460	1380
8	1680	966	957	1130	1270	1360	213	200	513	764	1140	1360
9	1310	902	1060	1120	851	1330	334	424	325	904	1510	1440
10	1220	1350	1520	1160	1230	1160	360	315	626	1130	1260	1520
11	1380	1100	1460	1580	1250	1280	1000	478	705	1070	1460	1410
12	1350	1110	1300	1220	1140	1310	452	424	748	1130	1230	1390
13	1380	1120	1290	871	1270	1480	471	275	288	1190	1300	1360
14	1380	1160	1560	1310	1280	942	1100	500	412	1270	1440	1430
15	1340	644	1290	1250	1250	1380	558	519	830	724	1510	1290
16	1390	2910	1330	987	1290	1380	396	1250	283	695	1470	927
17	1680	849	1270	1250	832	1480	323	643	326	473	1370	1410
18	1290	1250	1330	1250	1750	1480	416	1220	966	549	1460	1410
19	1290	971	2000	1340	1520	1040	261	1460	394	722	1460	1240
20	1330	1250	1340	1270	1380	1480	310	1090	974	1130	1390	1360
21	1520	441	1060	1230	1340	1610	303	243	588	942	1420	1300
22	1260	1390	1320	2020	1150	1190	424	323	970	700	1490	1260
23	1360	1640	1560	3490	1260	1440	376	689	978	1070	1420	1100
24	1660	943	937	1360	1230	1380	505	462	1070	1170	1460	1340
25	560	1260	1110	1590	987	1480	1450	584	1070	481	1460	1240
26	282	1350	1320	630	1190	1460	560	330	516	1220	4180	1360
27	381	440	689	854	1350	1440	614	411	1140	1070	1420	1260
28	3200	1220	1320	1110	1300	1310	743	278	830	1300	1510	1350
29	502	1220	824	1010	1440	958	398	519	1160	1200	1490	931
30	631	1480	858	1070	---	1460	419	450	1180	1370	1470	861
31	628	---	914	1180	---	1450	---	657	---	1430	1360	---
MONTH	1360	1090	1260	1270	1360	1350	631	656	653	1070	1440	1310

GUADALUPE RIVER BASIN

08173000 Plum Creek near Luling, Tex.--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.0	21.0	12.0	12.0	---	15.0	24.0	13.0	25.0	30.0	26.0	27.0
2	23.0	20.0	14.0	12.0	---	24.0	20.0	22.0	21.0	30.0	30.0	28.0
3	23.0	24.0	15.0	10.0	16.0	23.0	20.0	23.0	24.0	29.0	29.0	29.0
4	25.0	21.0	14.0	12.0	15.0	23.0	18.0	23.0	21.0	28.0	30.0	27.0
5	24.0	14.0	15.0	10.0	14.0	15.0	21.0	23.0	27.0	28.0	30.0	27.0
6	25.0	24.0	14.0	12.0	14.0	14.0	18.0	24.0	21.0	27.0	28.0	29.0
7	25.0	20.0	14.0	10.0	10.0	14.0	21.0	---	27.0	27.0	28.0	29.0
8	25.0	21.0	15.0	7.0	14.0	16.0	15.0	---	28.0	26.0	28.0	29.0
9	23.0	20.0	15.0	12.0	15.0	16.0	21.0	18.0	27.0	25.0	30.0	28.0
10	23.0	18.0	15.0	10.0	18.0	14.0	19.0	14.0	24.0	28.0	30.0	28.0
11	25.0	20.0	14.0	12.0	18.0	20.0	18.0	25.0	27.0	27.0	27.0	29.0
12	25.0	14.0	16.0	14.0	18.0	20.0	21.0	25.0	27.0	28.0	27.0	29.0
13	24.0	15.0	17.0	14.0	20.0	14.0	24.0	24.0	25.0	28.0	27.0	29.0
14	25.0	15.0	16.0	12.0	20.0	14.0	24.0	25.0	27.0	29.0	29.0	30.0
15	24.0	15.0	14.0	10.0	16.0	18.0	22.0	25.0	27.0	29.0	27.0	29.0
16	25.0	14.0	14.0	12.0	18.0	14.0	20.0	20.0	28.0	27.0	29.0	30.0
17	26.0	14.0	14.0	14.0	16.0	14.0	20.0	25.0	28.0	29.0	29.0	29.0
18	22.0	10.0	12.0	15.0	18.0	18.0	20.0	25.0	29.0	26.0	28.0	29.0
19	25.0	10.0	12.0	15.0	21.0	18.0	23.0	25.0	27.0	29.0	29.0	26.0
20	25.0	12.0	12.0	12.0	21.0	20.0	23.0	24.0	23.0	26.0	30.0	26.0
21	25.0	14.0	14.0	13.0	15.0	18.0	20.0	24.0	24.0	29.0	29.0	26.0
22	25.0	12.0	14.0	14.0	15.0	20.0	23.0	22.0	27.0	29.0	27.0	28.0
23	21.0	15.0	10.0	14.0	18.0	20.0	21.0	25.0	24.0	30.0	26.0	29.0
24	22.0	20.0	11.0	14.0	18.0	20.0	24.0	27.0	28.0	30.0	27.0	29.0
25	---	19.0	11.0	15.0	20.0	24.0	22.0	25.0	29.0	27.0	29.0	29.0
26	22.0	19.0	11.0	12.0	20.0	22.0	24.0	---	29.0	28.0	27.0	27.0
27	15.0	16.0	12.0	11.0	21.0	20.0	22.0	22.0	29.0	30.0	30.0	29.0
28	23.0	14.0	12.0	12.0	16.0	22.0	24.0	24.0	29.0	29.0	30.0	27.0
29	21.0	12.0	12.0	10.0	19.0	24.0	22.0	20.0	28.0	30.0	27.0	25.0
30	24.0	14.0	12.0	14.0	---	20.0	20.0	20.0	29.0	29.0	28.0	26.0
31	20.0	---	10.0	12.0	---	22.0	---	25.0	---	30.0	28.0	---
MONTH	23.5	17.5	13.5	12.0	17.5	18.5	21.0	23.5	26.5	28.5	28.5	28.0

GUADALUPE RIVER BASIN

273

08174600 Peach Creek below Dilworth, Tex.

LOCATION.--Lat 29°28'26", long 97°18'59", Gonzales County, on right bank at downstream side of bridge on U.S. Highway 90-A, 1.3 miles (2.1 km) downstream from Mitchell Creek, 3.1 miles (5.0 km) southwest of Dilworth, 6.4 miles (10.3 km) upstream from mouth, and 8.5 miles (13.7 km) southeast of Gonzales.

DRAINAGE AREA.--460 mi² (1,191 km²).

PERIOD OF RECORD.--Discharge: August 1959 to current year.

Water quality: Chemical analyses: April 1962 to current year.

GAGE.--Water-stage recorder. Prior to Feb. 11, 1960, nonrecording gage at same site and datum. Datum of gage is 213.53 ft (65.084 m) above mean sea level.

AVERAGE DISCHARGE.--17 years, 152 ft³/s (4.305 m³/s), 4.49 in/yr (114 mm/yr), 110,100 acre-ft/yr (136 km³/yr).

EXTREMES.--Current year: Maximum discharge, 7,320 ft³/s (207 m³/s) Apr. 6 (gage height, 28.23 ft or 8.605 m); minimum, 0.17 ft³/s (0.005 m³/s) Oct. 21.

Period of record: Maximum discharge, 28,000 ft³/s (793 m³/s) May 12, 1972 (gage height, 32.00 ft or 9.754 m); no flow at times in 1959-67, 1969-74.

Maximum stage since at least 1840, 35.3 ft (10.76 m) in June 1940. A stage of 32.8 ft (10.00 m) was reached June 30, 1936, but may have been affected by backwater from Guadalupe River, from information by local residents.

REMARKS.--Discharge records good. Recording rain gage located at station.

REVISIONS.--WSP 2123: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	12	3.3	6.0	3.6	3.2	5.9	751	639	5.0	3.5	.96
2	2.1	5.7	3.4	5.7	3.5	3.1	5.9	160	995	4.3	3.2	.90
3	2.1	4.5	3.4	5.3	3.6	3.0	5.5	59	883	4.0	2.9	.84
4	2.1	4.9	3.4	5.1	3.5	2.7	5.4	45	275	3.7	2.7	.73
5	1.7	4.7	3.4	5.0	3.6	2.6	866	40	84	3.7	2.6	1.0
6	1.5	14	3.4	4.9	3.7	2.9	5050	37	58	5.7	2.4	2.0
7	1.5	8.6	3.5	4.8	3.5	52	4090	309	48	6.9	2.0	1.4
8	1.4	6.5	3.3	4.4	3.6	305	2780	1250	43	7.3	1.9	1.1
9	1.3	5.2	3.4	4.1	3.4	329	2900	1670	39	7.0	1.9	.78
10	1.3	4.6	3.3	4.1	3.8	130	1460	1320	37	7.0	1.7	.68
11	1.3	3.9	3.2	4.3	4.1	36	191	298	35	6.7	1.5	.68
12	1.4	3.4	3.2	4.2	4.1	20	69	72	32	6.9	1.5	.73
13	1.3	2.4	3.3	4.2	4.0	15	51	1680	30	6.5	1.4	.68
14	1.2	2.4	3.4	4.4	3.9	12	42	1860	28	5.8	1.2	.62
15	1.2	2.4	3.1	4.5	3.9	12	36	1940	25	8.0	1.2	.62
16	1.2	2.4	3.4	4.3	3.6	11	42	441	20	21	1.1	.62
17	1.2	2.4	4.1	4.2	3.4	10	460	83	18	15	.96	.48
18	1.1	3.0	4.7	4.1	3.4	10	979	55	16	11	1.0	.36
19	1.2	3.1	3.7	4.0	3.3	9.4	1960	46	15	9.7	1.0	.48
20	1.2	3.3	3.9	4.8	3.3	9.1	3060	43	14	7.3	.90	2.0
21	.79	3.4	3.9	5.2	3.6	8.3	2720	134	13	6.0	1.1	4.7
22	1.5	3.4	3.6	6.2	3.3	7.4	1660	46	11	5.7	.96	2.1
23	.90	3.5	3.5	6.2	3.2	7.8	367	53	9.9	5.3	.90	1.6
24	.23	3.2	4.0	7.1	3.6	8.4	88	78	9.0	5.3	1.1	1.5
25	1.3	3.1	4.9	6.8	3.2	7.9	64	84	8.4	5.9	1.1	1.3
26	2.3	3.2	8.1	6.1	3.0	7.6	67	1280	8.2	5.4	.90	1.2
27	2.3	3.2	8.6	5.4	2.9	7.4	56	2280	7.9	4.9	.78	1.2
28	2.6	3.3	9.6	5.0	3.0	7.3	43	3490	7.4	4.6	.73	12
29	2.2	3.9	4.2	4.5	3.0	7.2	711	3370	6.6	4.4	1.3	15
30	1.7	3.9	7.2	4.0	---	6.9	984	983	5.6	4.1	1.3	8.9
31	.45	---	5.5	3.9	---	6.3	---	121	---	3.7	1.1	---
TOTAL	40,54	272.3	137.9	152.8	101.6	1061.0	29918.7	24228	3421.0	207.8	47.83	67.16
MEAN	2.42	2.44	4.45	4.93	3.50	34.2	997	782	114	6.70	1.54	2.24
MAX	4.5	4.4	7.1	7.1	4.1	32.9	5050	3690	995	21	3.5	15
MIN	.79	2.8	3.1	3.9	2.9	2.6	5.4	37	5.6	3.7	.73	.36
CFSM	.004	.02	.004	.01	.007	.07	2.17	1.70	.25	.01	.003	.004
IN	.007	.02	.01	.01	.006	.09	2.42	1.96	.28	.02	.004	.005
AC-FT	1.40	54.5	274	30.3	202	2100	59340	48060	6790	412	95	133

CAL YR 1975 TOTAL 53452.64 MEAN 14.8 MAX 8190 MIN .79 CFSM .32 IN 4.36 AC-FT 106800
WTR YR 1976 TOTAL 54706.63 MEAN 16.3 MAX 5050 MIN .36 CFSM .35 IN 4.83 AC-FT 118400

PEAK DISCHARGE (BASE, 1,800 FT³/S)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
4-6	1400	28.23	7,320	5-15	0600	23.95	2,190
4-20	1800	26.71	3,620	5-28	2000	27.07	4,200
5-9	2000	22.72	1,840				

GUADALUPE RIVER BASIN

08174600 Peach Creek below Dillworth, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)
OCT. 08...	1215	1.2	718	7.7	19.5	130	0	36	9.1	100
DEC. 30...	1725	7.0	941	7.7	11.0	270	130	77	20	92
FEB. 09...	1150	3.8	1240	7.7	11.0	370	210	100	28	130
MAR. 24...	1450	7.9	886	7.7	19.5	250	140	67	21	84
MAY 04...	1640	44	671	7.6	20.0	220	140	62	16	48
JUNE 15...	1300	25	1080	7.7	25.5	360	250	100	27	95
JULY 26...	1255	5.3	985	7.8	26.5	300	190	83	23	85
SEP. 07...	1445	1.4	986	7.9	27.0	210	20	60	15	130

DATE	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
OCT. 08...	3.9	4.6	232	0	86	64	--	18	432
DEC. 30...	2.4	6.5	174	0	180	98	.3	19	579
FEB. 09...	3.0	6.0	186	0	290	150	.3	15	811
MAR. 24...	2.3	7.5	142	0	180	99	.3	16	545
MAY 04...	1.4	6.0	98	0	140	72	.3	21	414
JUNE 15...	2.2	5.3	140	0	270	130	.3	28	725
JULY 26...	2.1	6.0	139	0	230	110	.3	18	624
SEP. 07...	3.9	4.6	234	0	140	110	.3	16	591

GUADALUPE RIVER BASIN

275

08175000 Sandies Creek near Westhoff, Tex.

LOCATION.--Lat 29°12'54", long 97°26'57", De Witt County, on left bank 100 ft (30 m) downstream from bridge on county highway, 1.9 miles (3.1 km) upstream from Birds Creek, 2.0 miles (3.2 km) northeast of Westhoff, and at mile 20.4 (32.8 km).

DRAINAGE AREA.--549 mi² (1,422 km²).

PERIOD OF RECORD.--Discharge: March 1930 to November 1934, August 1959 to current year.

Water quality: Chemical analyses: April 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is 178.27 ft (54.337 m) above mean sea level. Prior to Nov. 9, 1934, water-stage recorder at site 150 ft (46 m) upstream at datum 0.86 ft (0.262 m) higher. Aug. 10, 1959, to Feb. 2, 1960, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--21 years, 126 ft³/s (3,568 m³/s), 3.12 in/yr (79 mm/yr), 91,290 acre-ft/yr (113 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 1,850 ft³/s (52.4 m³/s) Apr. 20 (gage height, 17.31 ft or 5.276 m); minimum, 2.4 ft³/s (0.068 m³/s) Aug. 28.

Period of record: Maximum discharge, 79,700 ft³/s (2,260 m³/s) Sept. 22, 1967 (gage height, 32.34 ft or 9.857 m), from rating curve extended above 21,000 ft³/s (595 m³/s) on basis of slope-area measurement of 92,700 ft³/s (2,630 m³/s); no flow at times.

Maximum discharge since at least 1864, 92,700 ft³/s (2,630 m³/s) July 2, 1936 (gage height, 33.1 ft or 10.09 m, from floodmarks), on basis of computation of peak flow, at present site and datum. Flood in October 1913 reached a stage of 26.0 ft (7.92 m), present site and datum, from information by local residents.

REMARKS.--Discharge records good. No known diversion above station. Recording rain gage located at station.

REVISIONS.--WSP 2123: Drainage area.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.2	9.4	8.6	11	12	9.9	6.7	201	88	5.0	5.4	5.0
2	7.2	10	8.9	11	12	9.9	6.3	98	198	4.3	5.2	4.2
3	7.4	11	9.3	11	12	9.1	6.2	30	210	5.1	4.6	3.7
4	7.2	17	9.4	11	12	7.8	6.4	18	96	5.2	4.2	4.0
5	7.6	14	9.8	11	12	8.3	12	12	46	5.0	3.8	4.5
6	7.6	13	10	11	12	13	18	10	31	4.2	3.4	6.1
7	7.6	12	10	10	13	13	99	29	25	37	3.1	4.9
8	7.4	11	10	9.6	13	11	982	309	21	35	3.5	4.5
9	7.1	10	10	9.3	12	9.9	1060	758	19	18	3.8	3.9
10	6.8	9.7	10	9.8	12	10	809	584	17	13	3.7	3.5
11	6.6	9.2	9.9	10	12	10	222	161	16	17	3.4	3.5
12	7.2	8.2	10	11	12	10	57	51	15	25	3.7	2.9
13	7.3	9.2	11	11	12	11	32	360	13	70	3.8	2.6
14	6.4	7.6	11	11	14	11	23	777	13	114	3.6	4.0
15	6.4	7.1	11	11	13	10	19	1100	11	106	3.4	4.7
16	6.6	7.3	11	12	13	8.9	19	440	10	197	3.5	32
17	6.2	7.8	11	11	13	8.4	19	192	9.2	212	3.2	23
18	6.6	7.1	9.9	11	12	9.2	92	54	9.2	60	2.7	13
19	6.3	6.4	11	11	12	9.2	754	30	9.2	27	2.5	8.8
20	6.4	6.4	11	11	12	9.0	1620	23	8.5	18	2.6	14
21	6.4	9.2	11	10	12	8.7	1250	30	7.2	13	2.7	97
22	6.2	10	11	9.9	11	8.4	644	130	7.2	10	3.0	151
23	6.2	9.4	11	10	11	8.4	261	112	7.1	9.0	3.2	125
24	5.4	9.4	12	11	11	8.3	75	36	6.5	8.4	3.0	46
25	6.1	9.7	12	13	9.6	8.1	44	19	5.5	8.0	2.8	19
26	6.4	9.1	13	12	9.3	8.0	30	765	4.8	7.4	2.9	12
27	11	8.5	13	13	9.2	8.3	21	728	6.4	7.2	3.0	17
28	13	8.7	14	12	9.2	9.7	16	1340	6.8	7.3	2.7	281
29	11	9.2	13	11	9.2	11	18	1300	6.1	6.5	3.7	565
30	10	9.0	13	12	---	7.7	125	427	5.5	5.9	5.7	693
31	9.4	---	12	11	---	7.9	---	73	---	5.8	6.3	---
TOTAL	222.4	242.6	337.4	336.6	437.9	293.9	8346.6	10197	928.2	1066.3	112.5	2158.8
MEAN	7.2	7.7	10.4	10.9	11.7	9.4	278	329	30.4	34.4	3.6	72.0
MAX	13	17	14	13	14	13	1620	1340	210	212	6.3	693
MIN	5.4	7.1	9.3	9.3	9.2	7.8	6.2	10	4.2	4.2	2.5	2.6
CFSM	7.1	7.2	10.2	10.2	10.2	9.2	51	60	4.4	4.6	4.0	13
IN	1.2	1.2	1.2	1.2	1.2	1.2	1.57	1.64	1.06	1.07	1.00	1.15
AC-FT	454	508	670	668	670	553	16560	20230	1840	2120	223	4280

CAL YR 1975 TOTAL 56985.2 MEAN 154 MAX 4000 MIN 5.4 CFSM .23 IN 3.86 AC-FT 113000
 1976 TOTAL 24637.6 MEAN 67.3 MAX 1620 MIN 2.5 CFSM .12 IN 1.67 AC-FT 48870

PEAK DISCHARGE (BASE, 1,000 FT³/S)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
4-9	2000	14.32	1,090	5-15	1600	14.66	1,150
4-20	1600	17.31	1,850	5-28	2000	16.61	1,630

GUADALUPE RIVER BASIN

08175000 Sandies Creek near Westhoff, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)
OCT. 09...	1540	6.7	1150	7.7	22.5	210	0	61	14	170
DEC. 30...	1038	13	1300	8.3	9.5	210	0	63	13	210
FEB. 10...	1700	12	1210	7.9	17.0	220	0	65	14	180
MAR. 24...	1155	8.3	1320	8.1	18.5	190	0	55	13	210
MAY 03...	1505	27	616	7.4	21.0	110	0	32	7.3	79
JUNE 14...	1205	13	863	7.8	26.0	180	32	53	12	110
JULY 27...	1720	7.4	1040	8.0	29.0	190	0	55	12	150
SEP. 10...	1045	3.6	1400	7.8	25.0	170	0	49	11	240

DATE	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
OCT. 09...	5.1	12	290	0	85	170	--	18	673
DEC. 30...	6.3	10	349	0	110	190	.6	17	786
FEB. 10...	5.3	11	302	0	120	170	.5	14	723
MAR. 24...	6.6	11	382	0	92	190	.7	16	776
MAY 03...	3.3	9.5	135	0	50	88	.5	20	353
JUNE 14...	3.6	10	182	0	80	140	.3	21	516
JULY 27...	4.8	12	265	0	87	150	.4	18	615
SEP. 10...	8.1	14	356	0	52	250	.3	19	811

08175800 Guadalupe River at Cuero, Tex.

LOCATION.--Lat 29°03'57", long 97°19'16", De Witt County, on left bank at downstream side of bridge on U.S. Highways 77-A, 87, and 183, 2.1 miles (3.4 km) upstream from Gohlke Creek, 2.4 miles (3.9 km) southwest of Cuero, 4.2 miles (6.8 km) downstream from Sandies Creek, and at mile 100.6 (161.9 km).

DRAINAGE AREA.--4,934 mi² (12,779 km²).

PERIOD OF RECORD.--Discharge: December 1902 to December 1906, August 1916 to December 1935, January 1964 to current year. Published as "near Cuero" 1902-6, and as "below Cuero" 1916-35. Gage-height records collected at site 7.1 miles (11.4 km) upstream, upstream from Sandies Creek, from 1941 to 1966 are contained in reports of the National Weather Service and at present site since June 12, 1968. Water quality: Chemical analyses: March 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 128.64 ft (39.209 m) above mean sea level. Dec. 25, 1902, to June 1903, nonrecording gage at site 7.1 miles (11.4 km) upstream at different datum, gage heights moved to site 3.3 miles (5.3 km) upstream from present site before computation; July 1903 to December 1906 nonrecording gage 3.3 miles (5.3 km) upstream at different datum; Aug. 19, 1916, to Dec. 16, 1935, water-stage recorder at site 5.0 miles (8.0 km) downstream at datum 3.19 ft (0.972 m) lower.

AVERAGE DISCHARGE.--32 years (1903-6, 1916-18, 1920-35, 1964-76), 1,571 ft³/s (44.49 m³/s), 1,138,000 acre-ft/yr (1.40 km³/yr).

EXTREMES.--Current year: Maximum discharge, 14,500 ft³/s (411 m³/s) May 12 (gage height, 22.01 ft or 6.709 m); minimum, 648 ft³/s (18.4 m³/s) Mar. 25, 26.

Period of record: Maximum discharge, 101,000 ft³/s (2,860 m³/s) May 30, 1929 (gage height, 35.2 ft or 10.73 m, site and datum then in use), from rating curve extended above 45,000 ft³/s (1,270 m³/s); maximum gage height, 36.90 ft (11.247 m) May 14, 1972; minimum daily discharge, 79 ft³/s (2.24 m³/s) Aug. 13, 14, 1967.

Maximum stage since at least 1900, probably occurred July 2, 1936, 44.33 ft (13.512 m), present site and datum, from information by Texas Highway Department. Other floods at this station occurred Mar. 1, 1903, 43.0 ft (13.11 m), at different site and datum; Oct. 4, 1913, 37.57 ft (11.451 m), at different site and datum; Dec. 6, 1913, 34.57 ft (10.537 m), at different site and datum; Oct. 20, 1919, 32.2 ft (9.81 m), site and datum then in use; May 30, 1929, 35.2 ft (10.73 m), site and datum then in use; June 21, 1961, 37.0 ft (11.28 m), present site and datum; all from information by local residents.

REMARKS.--Discharge records good. Flow below New Braunfels is partly regulated by a series of small power dams, combined capacity of six largest dams 33,550 acre-ft (41.4 hm³). At end of year, flow from 220 mi² (570 km²) above this station was partly controlled by 50 floodwater-retarding structures with a flood-detention capacity of 68,060 acre-ft (83.9 hm³). Many small diversions above station.

REVISIONS.--WRO Texas 1968-69: Drainage areas at all sites.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1020	1150	834	825	896	823	731	5690	3560	1520	1850	1600
2	988	1060	834	818	857	822	714	4670	4960	1440	1810	1620
3	978	1060	817	806	850	809	697	2920	8030	1380	1800	1640
4	992	1120	807	860	874	809	692	2540	9490	1230	1800	1660
5	983	1120	820	886	876	806	904	2340	6040	1330	1770	1680
6	949	1060	826	844	851	792	3610	2300	3490	1560	1850	1700
7	954	986	829	891	861	856	7570	2520	3120	1960	1780	1640
8	968	970	817	1010	847	1430	11100	4450	2930	2100	1650	1580
9	948	953	827	810	861	1630	9710	4280	2790	2150	1660	1440
10	930	922	820	812	860	1210	8790	11900	2760	1830	1710	1470
11	913	925	812	877	852	1060	6760	13700	2550	1790	1700	1480
12	874	928	816	913	858	924	2400	12100	2440	1860	1650	1400
13	884	904	817	875	882	902	1610	6590	2380	2000	1600	1440
14	867	841	814	851	864	854	1380	8780	2270	1970	1580	1480
15	887	830	804	885	854	858	1250	11000	2270	2490	1550	1520
16	896	863	813	906	851	856	1190	10200	2240	3170	1500	1520
17	875	853	833	888	858	850	1630	4720	2330	3810	1550	1140
18	869	849	825	870	862	827	4890	3140	2490	3330	1600	955
19	826	865	816	867	926	828	6490	2790	2190	2960	1600	1040
20	844	866	796	867	1020	831	10100	2670	2110	2690	1600	1100
21	826	866	798	953	902	832	12200	2640	2340	2420	1600	1340
22	835	881	793	1030	854	821	12700	3560	2250	2260	1600	1320
23	880	831	790	941	845	833	11900	3050	1990	2140	1550	1220
24	859	803	836	911	852	944	5820	3930	1690	2140	1550	1110
25	856	815	846	910	852	775	3260	2660	1530	2130	1550	1040
26	962	804	928	907	842	770	2950	3070	1560	2090	1550	1060
27	1390	815	1170	928	834	818	3000	7260	1510	1860	1550	1130
28	2460	824	1020	1050	829	790	2810	10700	1610	1380	1560	1940
29	1911	830	907	859	790	804	2750	12400	1760	1790	1580	2540
30	1300	835	839	828	---	791	3610	13300	1580	1930	1600	2590
31	1150	---	835	896	---	765	---	6260	---	1900	1600	---
TOTAL	31858	27449	26139	27574	25074	27720	143223	175760	88710	64650	50900	44395
MEAN	1124	915	843	889	865	894	4774	5315	2957	2085	1542	1480
MAX	2460	1150	1170	1050	1020	1630	12700	13700	9490	3810	1850	2590
MIN	826	803	790	806	790	765	692	2300	1510	1230	1500	955
AC-FT	63190	54450	51850	54690	49730	54980	284100	388100	176000	126200	101000	83060

CAL YR 1975 TOTAL 1075096 MEAN 2945 MAX 34900 MIN 790 AC-FT 2132000
WTR YR 1976 TOTAL 753472 MEAN 2059 MAX 13700 MIN 692 AC-FT 1445000

PEAK DISCHARGE (BASE, 7,500 FT³/S)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
4-8	1500	19.36	11,500	5-16	0200	19.39	11,500
4-22	1300	20.55	12,800	5-30	0800	21.33	13,700
5-12	0300	22.01	14,500	6-4	1300	17.65	9,760

GUADALUPE RIVER BASIN

08175800 Guadalupe River at Cuero, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)
OCT. 09...	1425	914	586	8.1	23.0	260	33	74	19	27
MAR. 24...	1240	1020	614	8.2	19.0	260	38	74	19	30
MAY 03...	1925	2780	461	7.9	21.5	190	33	56	12	22
JUNE 14...	1520	2100	587	8.2	28.5	250	27	72	17	26
JULY 27...	1435	1960	535	8.2	29.0	240	27	69	16	21
SEP. 09...	1345	1540	528	8.2	29.0	240	26	65	18	22

DATE	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SI02) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
OCT. 09...	.7	2.1	280	0	28	37	--	8.9	334
MAR. 24...	.8	2.3	274	0	35	43	.3	12	351
MAY 03...	.7	3.8	190	0	32	33	.3	14	267
JUNE 14...	.7	2.3	272	0	33	39	.3	14	338
JULY 27...	.6	2.4	258	0	26	33	.3	13	308
SEP. 09...	.6	2.0	256	0	32	29	.1	11	305

08176500 Guadalupe River at Victoria, Tex.
(National stream-quality accounting network)

LOCATION.--Lat 28°47'34", Long 97°00'46", Victoria County, on left bank just upstream from pier of upstream bridge of two bridges on U.S. Highway 59 in Victoria, 1,300 ft (396 m) upstream from Southern Pacific Railroad Co. bridge, 15 miles (24 km) upstream from Coleta Creek, and at mile 50.7 (81.6 km).

DRAINAGE AREA.--5,198 mi² (13,463 km²).

PERIOD OF RECORD.--Discharge: November 1934 to current year. Gage-height records collected in this vicinity since 1904 are contained in reports of the National Weather Service.

Water quality: Chemical analyses: October 1945 to September 1946, October 1948 to current year. Water temperatures: November 1950 to current year. Sediment records: October 1972 to current year.

GAGE.--Water-stage recorder. Datum of gage is 29.15 ft (8.885 m) above mean sea level.

AVERAGE DISCHARGE.--41 years (1935-76), 1,724 ft³/s (48.82 m³/s), 1,249,000 acre-ft/yr (1.54 km³/yr).

EXTREMES.--Discharge: Current year: Maximum discharge, 14,100 ft³/s (399 m³/s) Apr. 19 (gage height, 26.54 ft or 8.089 m); minimum, 714 ft³/s (20.2 m³/s) Apr. 4.

Period of record: Maximum discharge, 179,000 ft³/s (5,070 m³/s) July 3, 1936 (gage height, 31.22 ft or 9.516 m); minimum daily, 14 ft³/s (0.40 m³/s) Aug. 20, 1956.

Historic: Maximum stage since at least 1833, that of July 3, 1936. Flood of June 1, 1929, reached a stage of 30.2 ft (9.21 m), present site and datum.

Water quality: Current year: Maximum daily specific conductance, 747 micromhos Jan. 3; minimum daily, 187 micromhos Dec. 25. Maximum water temperatures, 30.0°C Aug. 8-11, 13; minimum, 8.0°C Jan. 8, 9.

Period of record: Maximum daily specific conductance, 1,950 micromhos on several days during January 1946; minimum daily, 155 micromhos Sept. 22, 1967. Maximum water temperatures, 32.0°C Aug. 4, 27, 1952; minimum, 2.0°C Jan. 11, 12, 1962, Jan. 24, 1963.

REMARKS.--Discharge records good. Many diversions above station. Records furnished by city of Victoria show that they discharged about 6,200 acre-ft (7.64 hm³) of sewage effluent below station.

REVISIONS.--WSP 2123: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1150	1220	894	905	933	810	776	5030	6450	1740	1940	1620
2	1150	1220	898	891	901	831	752	6140	4950	1690	1900	1620
3	1120	1200	894	872	879	821	736	4370	6060	1580	1870	1610
4	1130	1150	876	864	877	807	725	3080	8090	1560	1870	1650
5	1130	1170	868	938	898	817	1840	2690	8660	1420	1860	1740
6	1120	1190	881	932	898	810	1770	2520	5820	1600	1830	1810
7	1100	1120	888	911	876	831	5020	2730	4080	1870	1830	1700
8	1110	1040	892	976	881	1030	8820	3560	3640	2090	1820	1530
9	1100	1050	881	1030	876	1690	9730	6140	3360	2390	1720	1600
10	1090	999	889	826	883	1500	8850	8920	3180	2320	1720	1570
11	1080	981	879	887	872	1190	8190	10400	3060	2170	1730	1540
12	1060	993	872	935	866	1030	5300	12100	2900	2120	1730	1520
13	1040	975	873	950	879	926	2440	11900	2650	2120	1690	1500
14	1040	957	873	903	897	920	1880	8330	2560	2150	1670	1530
15	1060	891	869	894	874	876	1630	8810	2490	2310	1650	1540
16	1210	885	905	939	861	880	1500	9950	2420	3230	1690	1580
17	1040	934	880	938	876	866	1400	9060	2380	3930	1590	1510
18	959	910	890	920	870	848	4150	4960	2830	4170	1770	1210
19	943	915	884	912	870	834	11400	3660	2780	3540	1680	1120
20	905	927	870	940	991	842	8750	3360	2310	3070	1660	1340
21	917	926	852	913	988	831	10400	3660	2260	2750	1700	1380
22	893	945	859	1050	893	834	11000	3230	2470	2430	1660	1480
23	925	943	848	1020	842	821	11300	4500	2260	2290	1640	1420
24	948	895	3220	972	845	866	10000	5420	2030	2220	1600	1320
25	988	869	5570	968	842	943	5170	4100	1850	2190	1610	1240
26	1050	891	1640	945	842	770	3730	3650	1780	2170	1590	1180
27	1090	870	1250	934	838	824	3420	4450	1760	2130	1610	1400
28	1920	887	1360	1030	838	821	3400	7850	1730	1790	1590	1890
29	2490	889	1090	1030	828	814	3710	9630	1830	1620	1560	3210
30	1700	894	981	800	---	821	4270	11000	1830	1920	1560	2650
31	1340	---	926	814	---	786	---	11300	---	1970	1560	---
TOTAL	35798	29736	36252	28839	25514	28290	152059	196500	100370	70550	52900	48010
MEAN	1155	991	1169	930	880	913	5069	6339	3346	2276	1706	1600
MAX	2490	1220	5570	1050	991	1690	11400	12100	8660	4170	1940	3210
MIN	893	869	848	800	828	770	725	2520	1730	1420	1560	1120
AC-FT	71010	58980	71910	57200	50610	56110	301600	389800	199100	139900	104900	95230

CAL YR 1975 TOTAL 1108506 MEAN 3037 MAX 29000 MIN 848 AC-FT 2199000
WTR YR 1976 TOTAL 804818 MEAN 2199 MAX 12100 MIN 725 AC-FT 1596000

PEAK DISCHARGE (BASE, 7,800 FT³/S)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
12-24	2400	22.02	9,420	5-13	0300	25.83	13,000
4-9	1000	22.61	9,840	5-16	2300	23.15	10,200
4-19	0400	26.54	14,100	5-31	0800	24.85	11,800
4-23	1000	24.39	11,300	6-5	0900	21.25	8,910

GUADALUPE RIVER BASIN

08176500 Guadalupe River at Victoria, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)
OCT 23...	1100	920	599	7.9	23.5	0	15	8.0	93	1.3
NOV 20...	1145	910	613	7.9	19.0	1	17	8.4	89	1.2
DEC 10...	1420	873	637	8.0	17.0	5	8	10.4	107	.9
JAN 22...	1250	1070	628	8.0	14.5	7	8	10.5	102	1.2
FEB 26...	0930	800	632	7.9	17.5	12	15	8.8	92	1.0
MAR 25...	1610	940	602	7.9	22.5	26	20	8.8	100	.8
APR 29...	1335	3820	500	7.9	23.5	33	120	7.4	86	2.4
MAY 27...	1145	3950	469	7.7	24.5	45	130	7.2	85	3.5
JUN 24...	1135	2040	553	7.9	28.0	15	35	7.2	92	1.6
JUL 21...	1530	2720	489	7.8	28.0	49	60	7.4	95	1.0
AUG 19...	1300	1640	523	7.9	29.0	15	22	7.2	95	1.6
SEP 23...	1605	1390	546	8.0	27.0	15	15	8.2	104	1.5

DATE	IMME- DIATE COLI- FORM (COL. PER 100 ML)	FECAL COLI- FORM (COL. PER 100 ML)	STREP- TOCOCCI (COL- ONIES PER 100 ML)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)
OCT 23...	1000	16	250	260	27	73	19	29	.8	2.2
NOV 20...	1800	80	160	270	29	80	17	30	.8	2.2
DEC 10...	56	60	50	280	40	86	17	32	.8	2.4
JAN 22...	96	22	27	270	35	77	18	33	.9	2.0
FEB 26...	190	52	96	280	41	80	19	33	.9	2.1
MAR 25...	270	110	150	250	31	72	17	32	.9	2.4
APR 29...	14000	2300	5200	210	33	66	12	22	.7	3.3
MAY 27...	7200	2400	4500	200	25	59	12	21	.7	3.0
JUN 24...	540	100	330	240	33	71	16	28	.8	2.5
JUL 21...	1200	160	420	200	25	61	12	24	.7	3.2
AUG 19...	550	170	180	230	24	64	17	23	.7	2.1
SEP 23...	520	44	100	240	30	68	17	26	.7	2.3

GUADALUPE RIVER BASIN

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08176500 Guadalupe River at Victoria, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	HICAR- BONATE (HC03) (MG/L)	CAR- BONATE (C03) (MG/L)	DIS- SOLVED SULFATE (S04) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SIO2) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NON- FILTRABLE RESIDUE (MG/L)	VOL. NON- FILTRABLE RESIDUE (MG/L)
OCT 23...	285	0	29	40	--	9.9	361	343	34	6
NOV 20...	294	0	31	43	.3	12	378	360	36	4
DEC 10...	298	0	33	46	.5	10	364	374	16	1
JAN 22...	282	0	34	43	.2	5.7	354	352	22	0
FEB 26...	290	0	32	45	.3	10	388	365	46	6
MAR 25...	267	0	34	45	.3	13	352	347	44	9
APR 29...	222	0	32	33	.4	13	314	292	330	74
MAY 27...	210	0	27	31	.1	13	274	270	370	70
JUN 24...	258	0	30	42	.3	13	328	331	76	12
JUL 21...	215	0	29	36	.3	14	306	286	141	16
AUG 19...	252	0	23	34	.3	12	318	300	52	10
SEP 23...	256	0	27	38	.3	11	328	316	48	4

DATE	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	SUS- PENDED SEDIMENT (MG/L)	SUS- PENDED SEDIMENT DIS- CHARGE (T/DAY)	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM
OCT 23...	.99	.01	.01	.29	.05	--	18	45	85
NOV 20...	1.3	.00	.00	.25	.08	--	24	59	82
DEC 10...	.89	.00	.01	.13	.05	--	11	26	92
JAN 22...	1.3	.01	.02	.34	.05	--	9	26	69
FEB 26...	1.3	.01	.02	.32	.09	1.6	25	54	77
MAR 25...	1.3	.00	.01	.34	.10	--	29	74	94
APR 29...	.97	.02	.03	.86	.18	10	327	3370	86
MAY 27...	.79	.01	.04	.55	.13	--	317	3380	95
JUN 24...	.71	.01	.00	.26	.14	5.5	56	308	88
JUL 21...	.90	.01	.01	.53	.12	--	129	947	95
AUG 19...	.88	.01	.00	.27	.05	2.0	67	297	95
SEP 23...	.82	.00	.01	.34	.04	--	52	195	96

GUADALUPE RIVER BASIN

08176500 Guadalupe River at Victoria, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		DIS-SOLVED ALUMINUM (AL) (UG/L)	TOTAL ARSENIC (AS) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	TOTAL CADMIUM (CD) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	TOTAL CHROMIUM (CR) (UG/L)	DIS-SOLVED CHROMIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)
DATE	TIME									
FEB. 26...	0930	50	2	2	140	1	0	20	0	2
APR. 29...	1335	20	4	2	80	0	0	10	0	4
JUNE 24...	1135	20	3	1	110	3	0	20	0	0
AUG. 19...	1300	10	1	1	90	0	0	30	12	0

		DIS-SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	TOTAL MANGANESE (MN) (UG/L)
DATE										
FEB. 26...		0	2	2	570	0	7	0	10	40
APR. 29...		0	12	1	6100	0	16	0	10	170
JUNE 24...		0	9	0	1700	0	17	0	10	40
AUG. 19...		0	6	0	870	0	8	0	10	30

		DIS-SOLVED MANGANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	TOTAL SELENIUM (SE) (UG/L)	DIS-SOLVED SELENIUM (SE) (UG/L)	DIS-SOLVED STRONTIUM (SR) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
DATE										
FEB. 26...		0	.2	.2	0	0	0	630	30	10
APR. 29...		0	.2	.2	0	0	0	440	30	0
JUNE 24...		0	.4	.4	0	1	1	840	40	0
AUG. 19...		10	.2	.2	0	0	0	580	20	0

DATE	TIME	TOTAL PCB (UG/L)	PCH IN BOTTOM MATERIAL (UG/KG)	POLY-CHLORINATED NAPH-THALENES (UG/L)	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL CHLORDANE (UG/L)	CHLORDANE IN BOTTOM MATERIAL (UG/KG)	TOTAL DDD (UG/L)	DDD IN BOTTOM MATERIAL (UG/KG)	TOTAL DDE (UG/L)	DDE IN BOTTOM MATERIAL (UG/KG)
FEB. 26...	0930	.0	36	.00	.00	.0	.0	8	.00	.4	.00	.0
MAY 27...	1145	.0	--	.00	.00	--	.0	--	.00	--	.00	--
JUNE 24...	1135	.0	0	.00	.00	.0	.0	0	.00	.0	.00	.0
AUG. 19...	1300	.0	0	.00	.00	.0	.0	2	.00	.4	.00	.9

DATE		TOTAL DDT (UG/L)	DDT IN BOTTOM MATERIAL (UG/KG)	TOTAL DIAZINON (UG/L)	TOTAL DIELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL ETHION (UG/L)	TOTAL HEPTACHLOR (UG/L)	HEPTACHLOR IN BOTTOM MATERIAL (UG/KG)	TOTAL HEPTACHLOR EPOXIDE (UG/L)	HEPTACHLOR EPOXIDE IN BOTTOM MATERIAL (UG/KG)
FEB. 26...	.00	.0	.00	.00	.1	.00	.0	.00	.00	.0	.00	.0
MAY 27...	.00	--	.00	.00	--	.00	--	.00	.00	--	.00	--
JUNE 24...	.00	.0	.00	.00	.0	.00	.0	.00	.00	.0	.00	.0
AUG. 19...	.00	2.2	.00	.00	.0	.00	.0	.00	.00	.0	.00	.0

DATE		TOTAL LINDANE (UG/L)	LINDANE IN BOTTOM MATERIAL (UG/KG)	TOTAL MALATHION (UG/L)	TOTAL METHYL PARATHION (UG/L)	TOTAL METHYL TRI-THION (UG/L)	TOTAL PARA-THION (UG/L)	TOTAL TOXAPHENE (UG/L)	TOXAPHENE IN BOTTOM MATERIAL (UG/KG)	TOTAL TRI-THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
FEB. 26...	.00	.0	.00	.00	.00	.00	.00	0	0	.00	.00	.00	.00
MAY 27...	.00	--	.00	.00	.00	.00	.00	0	--	.00	.00	.06	.00
JUNE 24...	.00	.0	.00	.00	.00	.00	.00	0	0	.00	.02	.01	.00
AUG. 19...	.00	.0	.00	.00	.00	.00	.00	0	0	.00	.05	.00	.00

08176500 Guadalupe River at Victoria, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

OCT. 23, 1975 1100 HOURS

PHYTOPLANKTON 290 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...VOLVOCALES		
...CHLAMYDOMONADACEAE		
...CHLAMYDOMONAS	32	11
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
...PENNIALES		
...CYMBELLACEAE		
...CYMBELLA	32	11
...NAVICULACEAE		
...GYROSIGMA	32	11
...NITZSCHIA		
...NITZSCHIA	130	44
...SURIPELLACEAE		
...SURIPELLA	32	11
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
...EUGLENALES		
...EUGLENA	32	11

NOV. 20, 1975 1145 HOURS

PHYTOPLANKTON 94 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
...PENNIALES		
...NAVICULACEAE		
...NAVICULA	8	8
...NITZSCHIA		
...NITZSCHIA	79	83
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
...EUGLENALES		
...EUGLENA		
...TRACHELOMONAS	8	8

DEC. 10, 1975 1420 HOURS

PHYTOPLANKTON 260 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
...CENTRALES		
...COSCONODISCACEAE		
...CYCLOTILLA	14	6
...PENNIALES		
...GOMPHONEMACEAE		
...GOMPHONEMA	14	6
...NAVICULACEAE		
...GYROSIGMA	14	6
...NAVICULA	43	17
...NITZSCHIA		
...NITZSCHIA	14	6
...NITZSCHIA	71	28
...SURIPELLACEAE		
...SURIPELLA	86	33

JAN. 22, 1976 1250 HOURS

PHYTOPLANKTON 650 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
...CENTRALES		
...BIDDULPHIA		
...BIDDULPHIA		
...COSCONODISCACEAE		
...CYCLOTILLA	130	19
...PENNIALES		
...CYMBELLACEAE		
...CYMBELLA		
...FRAGILARIACEAE		
...SYNEDRA	50	8
...NAVICULACEAE		
...NAVICULA	150	23
...NITZSCHIA		
...NITZSCHIA	280	42
...SURIPELLACEAE		
...CYMATOPLEURA		
...SURIPELLA	50	8

FEB. 26, 1976 0930 HOURS

PHYTOPLANKTON 180 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
...CENTRALES		
...BIDDULPHIA		
...BIDDULPHIA		
...PENNIALES		
...ACHNANTHACEAE		
...COCCONEIS		
...DIATOMACEAE		
...DIATOMA	78	44
...GOMPHONEMACEAE		
...GOMPHONEMA	10	6
...NAVICULACEAE		
...NAVICULA	29	17
...NITZSCHIA		
...NITZSCHIA	49	28
...SURIPELLACEAE		
...CYMATOPLEURA	10	6

MAR. 25, 1976 1610 HOURS

PHYTOPLANKTON 330 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...OCCYSTACEAE		
...SELENASTRUM	8	3
...SCENEDESMACEAE		
...SCENEDESMUS	16	5
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
...CENTRALES		
...COSCONODISCACEAE		
...CYCLOTILLA	16	5
...MELOSIRA	16	5
...PENNIALES		
...CYMBELLACEAE		
...AMPHORA		
...DIATOMACEAE		
...DIATOMA	16	5
...GOMPHONEMACEAE		
...GOMPHONEMA	25	8
...NAVICULACEAE		
...NAVICULA	16	5
...NITZSCHIA		
...NITZSCHIA	160	50
...SURIPELLACEAE		
...CYMATOPLEURA		
...SURIPELLA	16	5
CYANOPHYTA		
..MYXOPHYCEAE		
...CHROOCOCCALES		
...CHROOCOCCACEAE		
...ANACYSTIS	33	10

08176500 Guadalupe River at Victoria, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

APR. 29, 1976 1335 HOURS

PHYTOPLANKTON 430 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..OCCYSTACEAE		
....ANKISTRODESMUS	29	7
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCEAE		
....MEIOSIRA	170	40
..PENNALES		
..DIATOMEAE		
....DIATOMA	29	7
..NAVICULACEAE		
..NAVICULA	29	7
..NITZSCHIAEAE		
....NITZSCHIA	120	27
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
..EUGLENALES		
..EUGLENACEAE		
....EUGLENA	29	7
....TRACHELOMONAS	29	7

MAY 27, 1976 1145 HOURS

PHYTOPLANKTON 62 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..OCCYSTACEAE		
....ANKISTRODESMUS	9	14
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..PENNALES		
..FRAGILARIACEAE		
....SYNEDRA	9	14
..NAVICULACEAE		
..NAVICULA	27	43
..STAURONEIS	9	14
..NITZSCHIAEAE		
....NITZSCHIA	9	14

JUNE 24, 1976 1135 HOURS

PHYTOPLANKTON 140 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..OCCYSTACEAE		
....ANKISTRODESMUS	7	5
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCEAE		
....CYCLOTELLA	10	7
....MEIOSIRA	23	17
..PENNALES		
..NAVICULACEAE		
..NAVICULA	7	5
..NITZSCHIAEAE		
....NITZSCHIA	49	36
CYANOPHYTA		
..MYXOPHYCEAE		
..OSCILLATORIACEAE		
..OSCILLATORIA		
....OSCILLATORIA	39	29
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
..EUGLENALES		
..EUGLENACEAE		
....TRACHELOMONAS	3	2

JULY 21, 1976 1530 HOURS

PHYTOPLANKTON 93 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..HYDRODICTYACEAE		
....PEDIASTRUM	35	38
..VOLVOCALES		
..CHLAMYDOMONADACEAE		
....CHLAMYDOMONAS	9	10
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCEAE		
....MEIOSIRA	4	5
..PENNALES		
..GOMPHONEMACEAE		
....GOMPHONEMA	9	10
..NAVICULACEAE		
..NAVICULA		0
..NITZSCHIAEAE		
....NITZSCHIA	9	10
CYANOPHYTA		
..MYXOPHYCEAE		
..OSCILLATORIACEAE		
..NOSTOCACEAE		
....APHANIZOMENON	27	29

AUG. 19, 1976 1300 HOURS

PHYTOPLANKTON 1,200 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..PENNALES		
..NAVICULACEAE		
..NAVICULA	86	7
..NITZSCHIAEAE		
....NITZSCHIA	230	19
CYANOPHYTA		
..MYXOPHYCEAE		
..CHROOCOCCALES		
..CHROOCOCCACEAE		
....AGMENELLUM	920	74

SEP. 23, 1976 1605 HOURS

PHYTOPLANKTON 60 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..COELASTRACEAE		
....COELASTRUM	3	4
..OCCYSTACEAE		
....ANKISTRODESMUS	1	2
..SCENEDESMACEAE		
....SCENEDESMUS	5	9
..VOLVOCALES		
..CHLAMYDOMONADACEAE		
....CHLAMYDOMONAS	1	2
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..PENNALES		
..CYMBELLACEAE		
....CYMBELLA	1	2
..NAVICULACEAE		
..GYROSOMA	1	2
..NAVICULA	2	9
..PINNULARIA	1	2
..NITZSCHIAEAE		
....NITZSCHIA	13	21
..SURIPELLACEAE		
....SURIPELLA	3	4
CYANOPHYTA		
..MYXOPHYCEAE		
..OSCILLATORIACEAE		
..OSCILLATORIA		
....OSCILLATORIA	24	43
PYRROPHYTA		
..DINOPHYCEAE		
..PERIDINIALES		
..GLENODINIACEAE		
....GLENODINIUM		0

GUADALUPE RIVER BASIN

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08176500 Guadalupe River at Victoria, Tex.--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

MONTH	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCTANCE (MICROMH/CM) = 1000	DISSOLVED SOLIDS (MG/L)	DISSOLVED SOLIDS (TONS)	DISSOLVED SOLIDS (MG/L)	DISSOLVED SOLIDS (TONS)	DISSOLVED SOLIDS (MG/L)	DISSOLVED SOLIDS (TONS)	DISSOLVED SOLIDS (MG/L)	DISSOLVED SOLIDS (TONS)	HARDNESS (CA+MG)
OCT. 1975.....	35796	621	850	33600	44	4200	34	3270	260		
NOV. 1975.....	27734	615	850	28100	44	3500	34	2710	260		
DEC. 1975.....	35252	616	850	29100	38	3700	30	2950	220		
JAN. 1976.....	28834	647	840	29200	42	3710	36	2780	280		
FEB. 1976.....	24586	643	870	24800	47	3140	35	2360	280		
MAR. 1976.....	24724	647	870	23400	47	3500	35	2710	280		
APR. 1976.....	152750	655	810	85800	26	10800	24	9660	160		
MAY 1976.....	146500	643	820	115000	26	14700	24	12900	160		
JUNE 1976.....	109370	644	840	76100	36	9660	29	7820	210		
JULY 1976.....	70551	640	810	59500	37	7510	31	5900	230		
AUG. 1976.....	52700	629	810	43800	39	5520	31	4360	230		
SEPT 1976.....	48011	610	800	32900	34	4900	30	3920	220		
TOTAL	733490	60	60	503000	60	75100	60	61300	60		
ATB.AVS.	2202.71	476	270	60	30	60	26	60	200		

SPECIFIC CONDUCTANCE (MICROMH/CM AT 25 DEG. C) WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	592	535	656	650	645	659	661	491	320	547	550	534
2	529	471	648	650	590	659	602	440	362	620	542	534
3	602	485	589	747	645	665	580	421	482	608	536	538
4	605	520	614	670	649	673	550	430	423	615	493	530
5	592	572	656	637	659	669	577	500	303	620	539	530
6	592	571	623	686	627	673	436	491	358	620	477	543
7	602	582	600	677	635	659	619	496	464	603	540	530
8	602	593	575	663	645	653	370	430	510	584	524	538
9	592	605	656	677	640	640	310	476	525	589	543	534
10	529	585	637	670	642	640	323	415	541	526	537	534
11	592	615	626	657	639	628	364	291	546	579	532	543
12	587	624	649	661	651	693	310	283	567	538	540	540
13	602	644	647	653	644	595	327	314	569	546	524	485
14	584	644	640	653	637	571	355	365	590	559	530	540
15	608	648	610	657	635	579	389	335	601	565	530	525
16	605	641	645	634	633	637	444	336	608	532	479	530
17	608	627	676	647	636	685	482	297	604	498	530	525
18	592	641	643	589	651	693	511	320	611	508	548	540
19	622	641	659	640	657	689	278	406	588	407	523	553
20	622	613	650	620	658	665	383	472	575	497	554	507
21	622	642	640	584	650	628	331	472	560	489	528	518
22	602	651	635	628	631	599	287	569	552	500	530	556
23	599	642	651	607	640	616	288	589	553	502	530	546
24	615	651	200	634	652	623	304	617	579	532	548	567
25	628	651	187	631	656	602	338	368	608	549	548	528
26	605	651	407	634	632	623	400	427	537	531	535	580
27	625	640	570	625	652	637	446	469	585	551	535	553
28	622	633	609	640	660	646	479	491	614	565	548	458
29	622	642	642	634	662	640	500	333	613	565	451	400
30	608	656	683	653	---	645	420	280	618	565	528	443
31	584	---	656	669	---	635	---	271	---	562	540	---
MONTH	600	611	599	648	643	643	422	416	532	551	529	526

08176500 Guadalupe River at Victoria, Tex.--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23.0	21.0	15.0	14.0	12.0	20.0	19.0	21.0	25.0	28.0	---	28.0
2	22.0	22.0	15.0	15.0	12.0	21.0	20.0	---	24.0	28.0	29.0	28.0
3	20.0	21.0	15.0	10.0	14.0	21.0	---	21.0	25.0	28.0	29.0	28.0
4	20.0	21.0	16.0	10.0	15.0	22.0	---	21.0	25.0	29.0	28.0	28.0
5	21.0	21.0	17.0	10.0	12.0	22.0	20.0	21.0	25.0	28.0	29.0	29.0
6	21.0	21.0	18.0	11.0	15.0	18.0	19.0	22.0	25.0	26.0	29.0	29.0
7	22.0	21.0	15.0	11.0	---	18.0	20.0	23.0	25.0	27.0	29.0	28.0
8	22.0	22.0	14.0	8.0	14.0	19.0	18.0	22.0	25.0	27.0	30.0	28.0
9	23.0	23.0	15.0	8.0	---	17.0	18.0	22.0	25.0	26.0	30.0	28.0
10	24.0	21.0	15.0	11.0	---	17.0	18.0	22.0	26.0	26.0	30.0	27.0
11	25.0	21.0	16.0	13.0	17.0	19.0	19.0	20.0	26.0	26.0	30.0	27.0
12	25.0	20.0	17.0	13.0	17.0	20.0	19.0	22.0	27.0	26.0	29.0	27.0
13	25.0	17.0	16.0	15.0	18.0	18.0	20.0	21.0	27.0	26.0	30.0	28.0
14	25.0	17.0	18.0	13.0	18.0	16.0	21.0	20.0	26.0	27.0	29.0	27.0
15	25.0	17.0	19.0	12.0	---	16.0	21.0	20.0	27.0	26.0	29.0	27.0
16	24.0	18.0	15.0	13.0	20.0	15.0	21.0	21.0	28.0	26.0	29.0	27.0
17	23.0	19.0	15.0	12.0	20.0	15.0	22.0	21.0	28.0	27.0	29.0	27.0
18	22.0	20.0	14.0	13.0	18.0	17.0	22.0	21.0	28.0	27.0	29.0	27.0
19	21.0	20.0	12.0	14.0	19.0	18.0	21.0	22.0	28.0	27.0	28.0	27.0
20	20.0	17.0	13.0	13.0	20.0	20.0	21.0	22.0	26.0	27.0	26.0	26.0
21	21.0	16.0	---	12.0	19.0	19.0	20.0	22.0	---	27.0	28.0	26.0
22	22.0	15.0	12.0	12.0	17.0	17.0	21.0	22.0	27.0	27.0	---	25.0
23	23.0	15.0	12.0	12.0	---	18.0	22.0	24.0	27.0	27.0	28.0	25.0
24	23.0	14.0	---	14.0	15.0	19.0	22.0	24.0	28.0	28.0	28.0	25.0
25	21.0	14.0	11.0	15.0	17.0	20.0	23.0	24.0	27.0	28.0	28.0	25.0
26	20.0	13.0	11.0	13.0	17.0	21.0	23.0	23.0	28.0	28.0	28.0	26.0
27	20.0	---	11.0	11.0	18.0	19.0	23.0	24.0	28.0	28.0	28.0	26.0
28	21.0	16.0	13.0	11.0	18.0	21.0	23.0	23.0	28.0	28.0	28.0	25.0
29	22.0	18.0	11.0	12.0	19.0	22.0	22.0	24.0	28.0	29.0	28.0	23.0
30	20.0	18.0	---	13.0	---	21.0	22.0	24.0	28.0	28.0	28.0	23.0
31	21.0	---	11.0	13.0	---	20.0	---	25.0	---	29.0	28.0	---
MONTH	22.0	18.5	14.5	12.0	16.5	19.0	20.5	22.0	26.5	27.5	28.5	26.5

08177000 Coletto Creek near Schroeder, Tex.

LOCATION.--Lat 28°49'53", long 97°11'10", Goliad-Victoria County line, on left bank 373 ft (114 m) downstream from bridge on Farm Road 622, 2.5 miles (4.0 km) northeast of Schroeder, 4.2 miles (6.8 km) downstream from confluence of Twelvemile and Fifteenmile Creeks, 9.1 miles (14.6 km) upstream from Perdido Creek, 11.1 miles (17.9 km) west of Victoria, and at mile 21.8 (35.1 km).

DRAINAGE AREA.--369 mi² (956 km²).

PERIOD OF RECORD.--January 1930 to December 1933, October 1952 to current year.

GAGE.--Water-stage recorder. Datum of gage is 87.59 ft (26.697 m) above mean sea level. Prior to Dec. 31, 1933, nonrecording gage at site 0.7 mile (1.1 km) downstream at same datum; Oct. 20, 1952, to Jan. 17, 1955, and Sept. 22 to Nov. 8, 1967, nonrecording gage at site 0.6 mile (1.0 km) downstream at same datum. Jan. 18, 1955, to Sept. 21, 1967, water-stage recorder at same site and datum.

AVERAGE DISCHARGE.--27 years, 94.0 ft³/s (2.662 m³/s), 3.46 in/yr (88 mm/yr), 68,100 acre-ft/yr (84.0 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 28,600 ft³/s (810 m³/s) Apr. 18 (gage height, 17.52 ft or 5.340 m, from floodmark); minimum, 1.9 ft³/s (0.054 m³/s) Oct. 22-24.

Period of record: Maximum discharge, 122,000 ft³/s (3,460 m³/s) Sept. 21, 1967 (gage height, 33.47 ft or 10.202 m, from floodmark), from rating curve extended above 28,000 ft³/s (793 m³/s) on basis of slope-area measurement of peak flow; no flow for many days in 1956, 1963-65, and 1971.

Maximum stages since at least 1872 at present site and datum, that of Sept. 21, 1967, Oct. 16, 1946, 26.0 ft or 7.92 m (discharge, 63,700 ft³/s or 1,800 m³/s), and October 1925, 23.0 ft or 7.01 m (discharge, 46,700 ft³/s or 1,320 m³/s), from information by local resident.

REMARKS.--Records good. No known diversions above station.

REVISIONS (WATER YEARS).--WSP 1312: 1930(M). WSP 2123: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.8	3.3	7.8	21	11	13	8.5	134	110	14	20	14
2	3.1	3.8	8.3	20	13	11	8.0	85	201	14	20	17
3	2.9	17	9.0	16	13	11	8.3	66	102	17	18	16
4	2.9	15	9.4	16	13	11	8.6	55	61	17	17	14
5	2.6	12	10	17	14	11	422	49	46	16	16	11
6	2.5	10	9.5	17	12	10	132	48	38	23	15	11
7	2.7	10	9.0	15	11	15	612	234	35	25	15	9.2
8	2.9	10	9.0	13	12	27	3190	318	32	29	15	8.6
9	2.8	9.9	9.0	13	13	27	331	110	30	60	14	8.6
10	3.0	8.8	9.0	14	13	25	87	77	28	57	13	7.7
11	3.0	8.4	9.5	14	12	24	32	301	27	1190	12	7.3
12	2.9	7.3	9.2	14	14	22	18	366	26	464	12	7.3
13	2.3	5.8	9.5	14	13	21	14	737	25	123	12	7.7
14	2.2	6.3	10	13	13	20	11	298	23	97	11	29
15	3.7	7.3	9.4	12	13	19	7.9	126	23	120	13	112
16	16	7.8	14	13	14	18	9.9	78	23	137	12	25
17	4.8	7.8	12	14	14	17	9.0	59	21	124	21	19
18	2.5	9.5	9.4	12	13	17	6380	49	21	71	25	20
19	2.1	11	9.0	12	13	16	1700	43	21	52	18	15
20	2.0	9.6	9.6	14	14	15	447	238	19	43	15	407
21	2.0	8.7	9.3	15	14	14	283	216	18	38	12	326
22	1.9	7.8	9.0	14	12	14	148	102	18	36	12	143
23	2.0	7.8	9.0	14	12	13	101	61	17	34	11	62
24	2.0	7.8	2840	14	11	13	82	48	16	32	11	40
25	4.6	8.3	445	20	12	12	77	42	16	32	19	31
26	15	8.2	86	14	12	11	64	555	18	31	20	29
27	8.5	7.8	41	12	12	10	56	644	21	27	14	201
28	6.5	9.2	30	12	12	10	53	167	17	25	12	384
29	6.6	10	24	12	13	9.5	769	93	16	23	17	218
30	5.0	8.9	22	13	---	9.0	460	68	15	22	16	122
31	3.5	---	21	13	---	8.7	---	56	---	21	16	---
TOTAL	128.3	265.1	3727.9	445	368	474.2	15529.2	5523	1084	3014	474	2322.4
MEAN	4.14	8.48	120	14.4	12.7	15.3	518	178	36.1	97.2	15.3	77.4
MAX	16	17	2840	21	14	27	6380	737	201	1190	25	407
MIN	1.9	3.3	7.8	12	11	8.7	7.9	42	15	14	11	7.3
CFSM	.01	.02	.33	.04	.03	.04	1.40	.48	.10	.26	.04	.21
IN.	.01	.03	.38	.04	.04	.05	1.57	.56	.11	.30	.05	.23
AC-FT	254	526	7390	883	730	941	30800	10950	2150	5980	940	4610
CAL YR 1975 TOTAL	15464.3			MEAN 42.4	MAX 2840	MIN 1.9	CFSM .11	IN 1.56	AC-FT 30680			
WTR YR 1976 TOTAL	33355.1			MEAN 91.1	MAX 6380	MIN 1.9	CFSM .25	IN 3.36	AC-FT 66160			

PEAK DISCHARGE (BASE, 2,500 FT³/S)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
12-24	1600	a12.60	12,200	5-11	2300	8.38	2,920
4-8	0500	10.62	7,420	7-11	1700	8.71	3,500
4-18	1900	a17.52	28,600				

a From floodmark.

GUADALUPE RIVER BASIN

08177600 Olmos Creek tributary at Farm Road 1535, Shavano Park, Tex.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°34'35", long 98°32'45", Bexar County, at culvert on Farm Road 1535 at Shavano Park and 1.9 miles (3.1 km) southeast of intersection of Farm Roads 1535 and 1604.

DRAINAGE AREA.--0.33 mi² (0.85 km²).

PERIOD OF RECORD.--Discharge (storm hydrographs): October 1968 to current year.

Periodic water-quality data: Chemical, biochemical, and pesticide analyses: May 1970 (revised) to current year. Water temperatures: May 1970 (revised) to current year. Bacteria analyses: April to September 1976.

GAGE.--Digital recorders (water stage and rainfall). Datum of gage is 907.92 ft (276.734 m) above mean sea level, through the San Antonio supplementary adjustments of 1951 and 1953.

PEAK DISCHARGE.--Current year: Maximum discharge, 233 ft³/s (6.60 m³/s) May 7 (gage height, 5.22 ft or 1.591 m).

Period of record: Maximum discharge, 303 ft³/s (8.58 m³/s) Sept. 26, 1973 (gage height, 6.26 ft or 1.908 m).

REMARKS.--Additional storm rainfall-runoff data for this site can be obtained from the report "Hydrologic Data for Urban Studies in the San Antonio, Texas Metropolitan Area, 1976."

PEAK DISCHARGE ABOVE BASE (50 FT³/S)
OR FOR WATER-QUALITY ANALYSIS

DATE	TIME	G.HT.	DISCHARGE
4-18	0310	2.64	12

DISCHARGE AND WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	IMMEDIATE COLIFORM (COL. PER 100 ML)	FECAL COLIFORM (COL. PER 100 ML)	
DATE	TIME												
APR 18...	1045	50	181	7.8	15.5	140	15	7.9	78	5.3	50000	23000	
MAY 07...	1215	20	176	7.5	18.5	160	20	8.2	87	2.9	23000	23000	
		STREPTOCOCCI (COLONIES PER 100 ML)	NON-CARBONATE HARDNESS (CA+MG) (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISSOLVED PHOSPHORUS (P) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	
DATE	TIME												
APR 18...	4200	76	5	28	1.5	5.0	.2	7.5	87	0	6.2	7.0	
MAY 07...	2400	81	2	30	1.5	3.6	.2	5.3	97	0	5.7	3.5	
		DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SiO2) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NON-FILTRABLE RESIDUE (MG/L)	VOL. NON-FILTRABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)
DATE	TIME												
APR 18...2	14	113	18	6	.38	.01	.03	.87	.31	22	.1
MAY 07...2	16	114	20	1	.33	.02	.03	.79	.22	7.1	.0
				DISSOLVED ALUMINUM (AL) (UG/L)	DISSOLVED ARSENIC (AS) (UG/L)	DISSOLVED BORON (B) (UG/L)	DISSOLVED CADMIUM (CD) (UG/L)	DISSOLVED CHROMIUM (CR) (UG/L)	DISSOLVED COBALT (CO) (UG/L)	DISSOLVED COPPER (CU) (UG/L)			
DATE		TIME											
APR 18...		1045		30	1	60	0	0	0	2			
MAY 07...		1215		30	1	50	0	0	0	2			
			DISSOLVED IRON (FE) (UG/L)	DISSOLVED LEAD (PB) (UG/L)	DISSOLVED LITHIUM (LI) (UG/L)	DISSOLVED MANGANESE (MN) (UG/L)	DISSOLVED MERCURY (HG) (UG/L)	DISSOLVED NICKEL (NI) (UG/L)	DISSOLVED STRONTIUM (SR) (UG/L)	DISSOLVED ZINC (ZN) (UG/L)			
DATE		TIME											
APR 18...		...	60	0	10	0	.2	0	50	10			
MAY 07...		...	50	0	0	10	.2	0	50	10			

GUADALUPE RIVER BASIN

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08177600 Olmos Creek tributary at Farm Road 1535, Shavano Park, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		POLY-CHLORINATED NAPH-THA-LENES										
DATE	TIME	TOTAL PCB (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLOR-DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI-AZINON (UG/L)	TOTAL DI-ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	
APR. 18...	1045	.0	.00	.0	.00	.00	.00	.02	.00	.00	.00	
MAY 07...	1215	.0	.00	.0	.00	.00	.00	.03	.00	.00	.00	
DATE		TOTAL HEPTA-CHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALA-THION (UG/L)	TOTAL METHYL PARA-THION (UG/L)	TOTAL METHYL TRI-THION (UG/L)	TOTAL PARA-THION (UG/L)	TOTAL TOX-APHENE (UG/L)	TOTAL TRI-THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
APR. 18...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.19	.00
MAY 07...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.23	.00

GUADALUPE RIVER BASIN

08177700 Olmos Creek at Dresden Drive, San Antonio, Tex.

LOCATION.--Lat 29°29'56", long 98°30'36", Bexar County, on right bank 30 ft (9 m) downstream from low-water bridge on Dresden Drive at San Antonio, 0.15 mile (0.24 km) west of intersection of Blanco Road and Dresden Drive, and 4.0 miles (6.4 km) upstream from Olmos Dam.

DRAINAGE AREA.--21.2 mi² (54.9 km²).

PERIOD OF RECORD.--Discharge: June 1968 to current year.

Water quality: Chemical, biochemical, and pesticide analyses: October 1968 to current year. Sediment analyses: October 1970 to September 1973.

GAGE.--Water-stage recorder. Datum of gage is 726.10 ft (221.315 m) above mean sea level.

AVERAGE DISCHARGE.--8 years, 4.26 ft³/s (0.121 m³/s), 2.73 in/yr (69 mm/yr), 3,090 acre-ft/yr (3.81 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 5,310 ft³/s (150 m³/s) May 7 (gage height, 13.1 ft or 3.99 m, from floodmark); no flow July 31.

Period of record: Maximum discharge, 5,420 ft³/s (153 m³/s) May 7, 1972 (gage height, 13.20 ft or 4.023 m, from floodmark); no flow at times.

Maximum stage since 1935, that of May 7, 1972; floods in September and November 1947 reached a stage of 8.5 ft (2.59 m), from information by local resident.

REMARKS.--Discharge records good. Recording rain gage located at station, with three additional recording rain gages located in watershed.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	.04	.05	.99	.03	.02	.02	.32	1.4	.16	.01	.16
2	.03	.04	.05	.89	.03	.02	.02	.15	1.7	.10	.01	3.3
3	.03	.04	.05	.69	.03	.02	.02	.10	1.6	.14	.01	.44
4	.03	.04	.05	.69	.03	.02	37	.07	.57	7.4	.01	.16
5	.03	.04	.05	.69	.03	.02	14	16	.38	3.5	.01	.10
6	.03	.04	.05	.69	.03	.29	3.7	5.5	.38	64	.02	.10
7	.04	.04	.05	.70	.03	.03	5.4	710	.31	5.2	.04	.10
8	.04	.04	.05	.69	.03	.02	8.5	9.4	.38	4.6	.04	.09
9	.03	.04	.05	.69	.03	.02	2.3	5.1	.38	11	.04	.02
10	.03	.04	.67	1.1	.03	.02	2.1	2.2	.38	14	.02	.02
11	.03	.04	.06	1.4	.02	.02	1.0	.68	.38	7.9	.02	.02
12	.03	.04	.06	1.0	.02	.02	.69	1.1	.31	1.4	.02	.01
13	.03	.04	.06	.94	.02	.03	.10	9.8	.31	.82	.02	.38
14	.03	.04	.06	.69	.02	.03	.06	1.4	.38	4.8	.02	.15
15	.03	.05	.05	.69	.02	.02	12	.68	.47	4.6	.02	.21
16	.03	.05	.05	.69	.02	.02	26	.57	67	4.5	.02	.28
17	.03	.05	.05	.57	.02	.02	2.1	.47	1.0	1.4	.02	.31
18	.03	.05	.05	.57	.02	.02	125	.47	.57	.89	4.3	.31
19	.04	.05	.05	1.8	.02	.02	9.0	.56	.13	.50	.79	2.7
20	.03	.05	.06	14	.02	.02	15	17	.28	.24	.23	20
21	.03	.05	.06	.04	.02	.02	2.3	1.6	.17	.19	.10	2.8
22	.03	.05	.05	.04	.02	.02	.47	.53	.10	.12	.10	.24
23	.03	.05	.05	.03	.02	.02	.22	.34	.15	.01	.10	.38
24	.03	.05	31	.03	.02	.03	6.0	.35	.02	.02	.10	.02
25	64	.05	5.3	.03	.02	.02	17	.38	1.5	.01	.10	.01
26	7.4	.05	2.5	.03	.02	.02	.15	5.5	5.2	.01	.10	5.9
27	.69	.05	2.3	.03	.02	.02	.10	1.0	1.7	.01	.09	3.6
28	.22	.05	1.8	.03	.02	.02	.07	.68	.56	.01	.06	74
29	.08	.07	.99	.03	.02	.02	38	.58	.40	.01	5.1	2.5
30	.05	.05	.99	.03	---	.02	2.1	.38	.28	.01	1.6	.49
31	.05	---	.99	.03	---	.02	---	.42	---	0	.33	---
TOTAL	73.24	1.38	47.70	30.52	.68	.93	330.42	793.33	88.39	137.55	13.45	118.80
MEAN	2.36	.046	1.54	.98	.023	.030	11.0	25.6	2.95	4.44	.43	3.96
MAX	64	.07	31	14	.03	.29	125	710	67	64	5.1	74
MIN	.03	.04	.05	.03	.02	.02	.02	.07	.02	0	.01	.01
CFSM	.11	.002	.07	.05	.001	.001	.52	1.21	.14	.21	.02	.19
IN.	.13	.002	.08	.05	.001	.002	.58	1.39	.16	.24	.02	.21
AC-FT	145	2.7	95	61	1.3	1.8	655	1570	175	273	27	236
(††)	2.66	2.12	1.06	.74	.24	1.49	6.78	7.78	1.84	4.70	1.34	5.32

CAL YR 1975 TOTAL 1247.07 MEAN 3.42 MAX 319 MIN .03 CFSM .16 IN 2.19 AC-FT 2470 †† 26.66
WTR YR 1976 TOTAL 1636.39 MEAN 4.47 MAX 710 MIN 0 CFSM .21 IN 2.87 AC-FT 3250 †† 34.07

PEAK DISCHARGE BASE (400 FT³/S), OR FOR WATER-QUALITY ANALYSIS

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
4-15	2345	5.54	193	6-16	0300	6.78	719
4-18	0600	6.77	585	7- 6	1930	6.72	681
5- 7	0715	a13.1	5,310	9-28	0445	6.36	477

†† Weighted-mean rainfall, in inches, based on four rain gages.
a From floodmark.

GUADALUPE RIVER BASIN

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08177700 Olmos Creek at Dresden Drive, San Antonio, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COHELT UNITS)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	HEAVY METAL DEMAND (MG/L)	IMMEDIATE COLIFORM (COL. PER 100 ML)	FECAL COLIFORM (COL. PER 100 ML)	
APR 15...	232	76	259	7.7	16.5	22	160	4.0	81	15	62000	4600	
MAY 07...	0850	1450	167	7.4	17.5	260	250	9.5	100	4.1	48000	32000	
07...	1235	921	133	7.8	4.5	--	--	7.4	96	5.0	50000	20000	
07...	1725	120	184	7.4	23.0	--	--	7.7	91	4.6	38000	15000	
07...	2310	34	252	7.3	22.0	--	--	7.7	88	3.5	54000	11000	
DATE	TIME	STRONG TITRAC (COLONIES PER 100 ML)	NON-CALCIUM NITRATE NITRUS (MG/L)	DISSOLVED CALCIUM (MG/L)	DISSOLVED MAGNESIUM (MG/L)	DISSOLVED SODIUM (MG/L)	DISSOLVED POTASSIUM (MG/L)	DISSOLVED PHOSPHORUS (MG/L)	BICARBONATE (MG/L)	CARBONATE (MG/L)	DISSOLVED SULFATE (MG/L)	DISSOLVED CHLORIDE (MG/L)	
APR 15...	3400	100	0	37	2.0	10	0.4	3.1	124	0	16	10	
MAY 07...	7200	47	1	18	0.6	4.2	0.3	2.8	56	0	7.8	3.0	
07...	3200	--	--	--	--	--	--	--	--	--	--	--	
07...	2000	--	--	--	--	--	--	--	--	--	--	--	
07...	1300	--	--	--	--	--	--	--	--	--	--	--	
DATE	TIME	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICIC ACID (MG/L)	DISSOLVED SILICIC ACID (MG/L)	TOTAL NON-FILTRABLE RESIDUE (MG/L)	TOTAL NON-FILTRABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)
APR 15...	0.2	6.0	146	444	136	0.39	0.01	0.32	1.9	0.69	6.6	0.1	
MAY 07...	0.3	5.9	71	168	292	0.48	0.02	0.14	2.9	0.45	34	0.0	
07...	--	--	--	--	--	--	--	--	--	--	--	--	
07...	--	--	--	--	--	--	--	--	--	--	--	--	
DATE	TIME	DISSOLVED ALUMINUM (AL) (UG/L)	DISSOLVED ARSENIC (AS) (UG/L)	DISSOLVED BORON (B) (UG/L)	DISSOLVED CADMIUM (CD) (UG/L)	DISSOLVED CHROMIUM (CR) (UG/L)	DISSOLVED COBALT (CO) (UG/L)	DISSOLVED COPPER (CU) (UG/L)					
APR 15...	2320	0	3	80	0	0	0	2					
MAY 07...	0850	330	1	20	0	0	0	3					
DATE	TIME	DISSOLVED IRON (FE) (UG/L)	DISSOLVED LEAD (PB) (UG/L)	DISSOLVED LITHIUM (LI) (UG/L)	DISSOLVED MANGANESE (MN) (UG/L)	DISSOLVED MERCURY (HG) (UG/L)	DISSOLVED NICKEL (NI) (UG/L)	DISSOLVED STRONTIUM (SR) (UG/L)	DISSOLVED ZINC (ZN) (UG/L)				
APR 15...	0	4	0	10	0.2	0	150	20					
MAY 07...	220	0	0	0	0.1	0	50	20					
DATE	TIME	TOTAL PCB (UG/L)	POLYCHLORINATED NAPHTHALENES (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLORDANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DIAZINON (UG/L)	TOTAL DIELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	
APR 15...	2320	0	0.00	0.00	0.2	0.00	0.00	0.00	0.75	0.04	0.00	0.00	
MAY 07...	0850	0	0.00	0.00	0.2	0.00	0.00	0.01	0.13	0.02	0.00	0.00	
DATE	TIME	TOTAL HEPTACHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALATHION (UG/L)	TOTAL METHYL PARATHION (UG/L)	TOTAL METHYL TRIETHION (UG/L)	TOTAL PARAETHION (UG/L)	TOTAL TOXAPHENE (UG/L)	TOTAL TRIETHION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL STILVEX (UG/L)	
APR 15...	0.01	0.00	0.00	0.03	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	
MAY 07...	0.01	0.00	0.00	--	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	

LOCATION.--Lat 29°24'34", long 98°29'41", Bexar County, on left bank 193 ft (59 m) downstream from South Alamo Street Bridge in San Antonio, 2.1 miles (3.4 km) upstream from San Pedro Creek, and at mile 230.6 (371.1 km).

PERIOD OF RECORD.--Discharge: January 1915 to November 1929, February 1939 to current year. Ground-water discharge into river is discussed by Petit and George, Texas Board of Water Engineers Bull. 5608, vol. 1 (1956, p. 45). December 1895 to June 1906, periodic discharge measurements only.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 605.26 ft (184.483 m) above mean sea level. Jan. 26, 1915, to Feb. 27, 1916, nonrecording gage at site 1.3 miles (2.1 km) upstream at different datum. Feb. 28, 1916, to Apr. 7, 1920, nonrecording gage at site 1.1 miles (1.8 km) upstream at different datum. Apr. 8, 1920, to Nov. 16, 1929, and Feb. 15, 1939, to Apr. 25, 1967, water-stage recorder in vicinity of South Alamo Street Bridge at 7.00 ft (2.134 m) higher datum. Apr. 25, 1967, to May 13, 1969, water-stage recorder at site 307 ft (94 m) downstream at same datum.

EXTREMES.--Current year: Maximum discharge, 3,500 ft³/s (99.1 m³/s) May 26 (gage height, 12.60 ft or 3.840 m), from rating curve extended above 1,900 ft³/s (53.8 m³/s) on basis of computed discharge of 14,400 ft³/s (408 m³/s) by Corps of Engineers; minimum, 0.04 ft³/s (0.001 m³/s) Apr. 16.

Maximum stage since 1819, that of Sept. 10, 1921; flood of July 5, 1819, equaled or exceeded that of Sept. 10, 1921.

REVISIONS (WATER YEARS).--WSP 1312: 1917. WSP 1923: Drainage area. WRD Texas 1972: 1971(m).

[illegible]

GUADALUPE RIVER BASIN

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08178000 San Antonio River at San Antonio, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	IMMEDIATE COLIFORM (COL. PER 100 ML)	FECAL COLIFORM (COL. PER 100 ML)
DATE	TIME											
MAY 07...	1930	1040	146	7.6	21.6	110	400	4.6	96	5.0	98000	27000
20...	1246	310	244	7.7	21.6	35	160	7.5	83	>8.8	240000	40000
DATE	TIME	STREPTOCOCCI (COL. PER 100 ML)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	HICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)
MAY 07...	110000	77	77	28	1.7	2.9	.1	4.0	88	0	9.5	3.5
20...	51000	140	140	43	1.7	8.0	.3	2.5	162	0	18	10
DATE	TIME	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SiO2) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL FILTRABLE RESIDUE (MG/L)	VOL. NON-FILTRABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	METABOLIC BLUE ACTIVE SUBSTANCE (MG/L)
MAY 07...	...	6.9	100	848	168	.57	.02	.09	1.3	.52	11	.0
20...	1.0	7.2	178	426	78	.98	.02	.05	1.3	.38	13	.0
		DATE	TIME	DISSOLVED ALUMINUM (AL) (UG/L)	DISSOLVED ARSENIC (AS) (UG/L)	DISSOLVED BORON (B) (UG/L)	DISSOLVED CADMIUM (CD) (UG/L)	DISSOLVED CHROMIUM (CR) (UG/L)	DISSOLVED COBALT (CO) (UG/L)	DISSOLVED COPPER (CU) (UG/L)		
		MAY 20...	1246	30	1	90	0	0	0	5		
				DISSOLVED IRON (FE) (UG/L)	DISSOLVED LEAD (PB) (UG/L)	DISSOLVED LITHIUM (LI) (UG/L)	DISSOLVED MANGANESE (MN) (UG/L)	DISSOLVED MERCURY (HG) (UG/L)	DISSOLVED NICKEL (NI) (UG/L)	DISSOLVED STRONTIUM (SR) (UG/L)	DISSOLVED ZINC (ZN) (UG/L)	
				MAY 20...	40	0	0	40	.2	0	330	10
DATE	TIME	TOTAL PCB (UG/L)	POLYCHLORINATED NAPHTHALENES (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLORDANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DIAZINON (UG/L)	TOTAL DIELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)
MAY 07...	1930	.0	.00	.00	.1	.00	.00	.00	.19	.01	.00	.00
20...	1246	.0	.00	.00	.1	.01	.02	.04	.14	.01	.00	.00
DATE	TIME	TOTAL HEPTACHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALATHION (UG/L)	TOTAL METHYL PARATHION (UG/L)	TOTAL METHYL TRIETHION (UG/L)	TOTAL PARAETHION (UG/L)	TOTAL TOXAPHENE (UG/L)	TOTAL TRIETHION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
MAY 07...	...	.00	.02	.00	.66	.00	.00	.00	.00	.00	.02	.00
20...	...	.00	.00	.00	.66	.00	.00	.00	.00	.00	.07	.00

GUADALUPE RIVER BASIN

08178300 Alazan Creek at St. Cloud Street, San Antonio, Tex.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°27'29", long 98°32'59", Bexar County, at bridge on St. Cloud Street in San Antonio and 1.5 miles (2.4 km) upstream from Woodlawn Lake Dam.

DRAINAGE AREA.--3.26 mi² (8.44 km²).

PERIOD OF RECORD.--Discharge (storm hydrographs): October 1968 to current year.

Periodic water-quality data (revised): Chemical, biochemical, and pesticide analyses: November 1968 to current year. Sediment analyses: September 1970 to September 1973. Water temperatures: November 1968 to current year. Bacteria analyses: December 1975 to September 1976.

GAGE.--Digital recorders (water stage and rainfall). Gage not referenced to mean sea level.

PEAK DISCHARGE.--Current year: Maximum discharge, 2,600 ft³/s (73.6 m³/s) May 7 (elevation, 12.80 ft or 3.901 m).
Period of record: Maximum discharge, 4,380 ft³/s (124 m³/s) May 8, 1975 (elevation, 16.08 ft or 4.901 m).

REMARKS.--Additional storm rainfall-runoff data for this site can be obtained from the report "Hydrologic Data for Urban Studies in the San Antonio, Texas Metropolitan Area, 1976."

PEAK DISCHARGE ABOVE BASE (120 FT³/S)
OR FOR WATER-QUALITY ANALYSIS

DATE	TIME	ELEV.	DISCHARGE
12-24	1320	5.20	73
4-15	2215	7.50	447
5-20	1055	7.37	420

DISCHARGE AND WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	RIO-CHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	IMMEDIATE COLIFORM (COL. PER 100 ML)	FECAL COLIFORM (COL. PER 100 ML)	
DEC 24...	1010	34	207	6.9	11.5	45	50	10.8	98	11	99000	27000	
APR 16...	0020	69	210	6.8	15.5	55	150	9.4	93	9.6	42000	10000	
MAY 20...	1100	246	121	7.6	20.5	70	240	9.2	101	>8.8	160000	40000	
DATE	TIME	STREP-TOCOCCI (COLONIES PER 100 ML)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	
DEC 24...	168000	71	5	26	1.4	7.2	.4	3.5	80	0	15	7.0	
APR 16...	53000	59	0	21	1.6	11	.6	3.1	78	0	11	14	
MAY 20...	68000	40	0	14	1.2	8.2	.6	2.6	53	0	11	6.6	
DATE	TIME	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SiO2) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL FILTRABLE RESIDUE (MG/L)	VOL. FILTRABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)
DEC 24...		.2	2.4	103	9	0	.44	.02	.06	.84	.27	--	--
APR 16...		.3	4.2	105	230	56	.49	.02	.10	.94	.43	6.0	.1
MAY 20...		1.0	3.6	75	518	74	.41	.03	.13	1.2	.43	5.8	.0

GUADALUPE RIVER BASIN

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08178300 Alazan Creek at St. Cloud Street, San Antonio, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		DIS- SOLVED ALUM- INUM (AL) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)				
DATE	TIME											
DEC. 24...	1010	60	1	70	0	0	0	8				
APR. 16...	0020	30	2	100	0	0	0	3				
MAY 20...	1100	40	1	100	1	0	0	7				
DATE	TIME	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)			
DEC. 24...	210	50	0	0	.8	0	160	40				
APR. 16...	20	19	0	10	.2	0	120	10				
MAY 20...	40	10	0	40	.3	0	120	20				
DATE	TIME	TOTAL PCB (UG/L)	POLY- CHLO- RINATED NAPH- THA- LENES (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLOR- DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)
APR. 16...	0020	.0	.00	.00	.1	.01	.01	.01	.14	.01	.00	.00
MAY 20...	1100	.0	.00	.00	.2	.00	.00	.02	.14	.01	.00	.00
DATE	TIME	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)		
APR. 16...	.00	.01	.01	.05	.00	.00	0	.00	.00	.00	.00	.00
MAY 20...	.00	.03	.00	--	.00	.00	0	.00	.00	.11	.00	.00

GUADALUPE RIVER BASIN

08178600 Panther Springs Creek at Farm Road 2696 near San Antonio, Tex.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°37'31", long 98°31'06", Bexar County, at culvert on Farm Road 2696, 1.3 miles (2.1 km) north of intersection of Farm Roads 2696 and 1604, and 5.5 miles (8.8 km) north of San Antonio.

DRAINAGE AREA.--9.54 mi² (24.71 km²).

PERIOD OF RECORD.--Discharge (storm hydrographs): October 1968 to current year.

Periodic water-quality data: Chemical, biochemical, and pesticide analyses: May 1969 (revised) to current year. Water temperatures: May 1969 (revised) to current year. Bacteria analyses: April to September 1976.

GAGE.--Digital recorders (water stage and rainfall). Gage not referenced to mean sea level.

PEAK DISCHARGE.--Current year: Maximum discharge, 127 ft³/s (3.60 m³/s) Sept. 28 (elevation, 5.10 ft or 1.554 m).

Period of record: Maximum discharge, 8,610 ft³/s (244 m³/s) May 11, 1972 (elevation, 9.53 ft or 2.905 m).

REMARKS.--Additional storm rainfall-runoff data for this site can be obtained from the report "Hydrologic Data for Urban Studies in the San Antonio, Texas Metropolitan Area, 1976." After August 1976, flow from 8.86 mi² (22.95 km²) was controlled by a floodwater-retarding structure with a capacity of 3,293 acre-ft (4.06 hm³) below the flood-spillway crest, of which 198 acre-ft (0.244 hm³) is conservation-pool capacity.

PEAK DISCHARGE ABOVE BASE (200 FT³/S)
OR FOR WATER-QUALITY ANALYSIS

DATE	TIME	ELEV.	DISCHARGE
4-18	0935	4.69	56
5-7	1055	4.39	27

DISCHARGE AND WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COALT UNITS)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND 5 DAY PER (MG/L)	IMMEDIATE COLIFORM (COL. PER 100 ML)	FECAL COLIFORM (COL. PER 100 ML)
APR												
18...	0850	56	114	7.8	14.5	210	220	8.7	84	4.9	68000	34000
18...	1125	19	113	8.4	15.0	130	160	9.2	90	6.9	50000	27000
18...	1230	11	114	7.6	15.0	130	150	9.8	96	4.1	48000	24000
MAY												
07...	1100	27	111	7.7	17.5	140	35	8.2	85	3.4	3800	3700

DATE	TIME	STREPTOCOCCI (COLONIES PER 100 ML)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISSOLVED PHOSPHATE (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)
APR													
18...	66000	52	0	19	1.1	2.5	.2	4.3	68	0	4.0	4.2	
18...	53000	53	0	20	.7	2.1	.1	4.8	67	0	3.5	3.4	
18...	67000	48	0	18	.7	2.4	.2	4.5	62	0	3.4	2.6	
MAY													
07...	45000	53	0	20	.7	1.9	.1	2.8	67	0	3.2	1.8	

DATE	TIME	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SiO2) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL FILTERABLE RESIDUE (MG/L)	VOL. NON-FILTERABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	HEAVY-METAL BLUE ACTIVE SUBSTANCE (MG/L)
APR													
18...	.2	6.8	75	444	112	.40	.02	.13	1.5	.37	35	.1	
18...	.2	6.9	75	272	72	.29	.01	.19	1.9	.25	28	.1	
18...	.2	3.4	66	228	44	.29	.01	.06	1.2	.22	34	.1	
MAY													
07...	.7	13	77	37	0	.05	.01	.04	.82	.05	11	.0	

GUADALUPE RIVER BASIN

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08178600 Panther Springs Creek at Farm Road 2696 near San Antonio, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		DIS- SOLVED ALUM- INUM (AL) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)
DATE	TIME							
APR.								
18...	0850	30	1	60	0	0	0	2
18...	1125	240	0	70	0	8	0	2
18...	1230	100	0	00	0	8	0	6
MAY								
07...	1100	40	0	20	0	0	0	1

		DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)
DATE	TIME								
APR.									
18...	20	0	0	0	.2	0	50	0	
18...	160	0	0	5	.0	0	30	20	
18...	80	4	0	5	.1	2	20	20	
MAY									
07...	40	0	0	10	.3	0	50	0	

		POLY- CHLO- RINATED NAPH- THA- LENES (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLOR- DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)
DATE	TIME	TOTAL PCB (UG/L)									
APR.											
18...	0850	.0	.00	.00	.0	.00	.00	.00	.00	.00	.00
MAY											
07...	1100	.0	.00	.00	.0	.00	.00	.00	.00	.00	.00

		TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
DATE	TIME	TOTAL HEPTA- CHLOR (UG/L)										
APR.												
18...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00
MAY												
07...	.00	.00	.00	--	.00	.00	.00	0	.00	.00	.00	.00

GUADALUPE RIVER BASIN

08178640 West Elm Creek at San Antonio, Tex.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°37'23", long 98°26'29", Bexar County, at mid-channel, 1.8 miles (2.9 km) upstream from East Elm Creek, 2.1 miles (3.4 km) upstream from Farm Road 1604, and 7.0 miles (11.3 km) north of San Antonio International Airport.

DRAINAGE AREA.--2.45 mi² (6.35 km²).

PERIOD OF RECORD.--Discharge (storm hydrographs): February to September 1976.

Periodic water-quality data: Chemical, biochemical, pesticide and bacteria analyses: May to September 1976. Water temperatures: May to September 1976.

GAGE.--Digital recorders (water stage and rainfall). Gage not referenced to mean sea level.

PEAK DISCHARGE.--February to September 1976: Maximum discharge, 108 ft³/s (3.06 m³/s) May 7 (elevation, 4.30 ft or 1.311 m).

REMARKS.--Additional storm rainfall-runoff data for this site can be obtained from the report "Hydrologic Data for Urban Studies in the San Antonio, Texas Metropolitan Area, 1976."

PEAK DISCHARGE ABOVE BASE (100 FT³/S)
OR FOR WATER-QUALITY ANALYSIS

DATE	TIME	ELEV.	DISCHARGE
7-6	1805	2.92	28
8-30	1735	2.93	28

DISCHARGE AND WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPF-CIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	CHEMICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	
MAY 07...	0845	101	119	7.6	18.0	170	75	9.3	98	50	
07...	1010	24	141	7.6	18.0	160	30	9.0	95	41	
JUL 06...	1900	7.0	78	7.6	21.0	220	25	7.7	89	34	
AUG 30...	1720	7.0	84	7.5	22.0	260	180	7.7	91	20	
DATE	TIME	RIO-CHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	IMMEDIATE COLIFORM (COL. PER 100 ML)	FECAL COLIFORM (COL. PER 100 ML)	STREPTOCOCCI (COLONIES PER 100 ML)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO
MAY 07...	4.3	36000	25000	2800	58	2	22	.7	2.7	.2	
07...	3.5	7500	7000	5300	71	5	27	.8	2.7	.1	
JUL 06...	3.8	50000	32000	93000	33	0	13	.2	1.0	.1	
AUG 30...	4.2	58000	26000	92000	48	0	19	.1	1.1	.1	
DATE	TIME	DISSOLVED PHOSPHATE-SILICUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SiO2) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NON-FILTERABLE RESIDUE (MG/L)	
MAY 07...	2.6	68	0	3.9	2.9	.4	9.8	79	134		
07...	2.9	80	0	4.0	3.3	.3	12	93	33		
JUL 06...	3.4	43	0	3.0	2.0	.2	9.5	54	38		
AUG 30...	3.2	61	0	2.8	1.3	.1	6.8	65	290		
DATE	TIME	VOL. NON-FILTERABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	OIL AND GREASE (MG/L)	
MAY 07...	34	.20	.01	.02	1.1	.11	11	.1	0		
07...	0	.11	.01	.01	.75	.09	12	.0	0		
JUL 06...	13	.15	.01	.02	.60	.29	8.0	.0	0		
AUG 30...	48	.30	.02	.03	.97	.09	11	.0	0		

GUADALUPE RIVER BASIN

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08178640 West Elm Creek at San Antonio, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		DIS-SOLVED ALUMINUM (AL) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	DIS-SOLVED CHROMIUM (CR) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)				
DATE	TIME											
MAY 07...	0845	70	0	30	0	0	0	2				
07...	1010	30	0	40	0	0	0	2				
JULY 06...	1900	30	0	20	0	0	0	4				
AUG. 30...	1720	290	1	20	0	0	0	4				
DATE	TIME	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MANGANESE (MN) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED STRONTIUM (SR) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)			
MAY 07...	70	0	0	0	.2	0	40	20				
07...	50	0	0	10	.3	0	40	30				
JULY 06...	50	0	0	10	.2	0	100	0				
AUG. 30...	200	3	0	20	.3	1	70	50				
DATE	TIME	TOTAL PCB (UG/L)	POLY-CHLORINATED NAPHTHALENES (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLORDANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DIAZINON (UG/L)	TOTAL DIELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)
MAY 07...	0845	.0	.00	.00	.0	.00	.00	.01	.00	.00	.00	.00
07...	1010	.0	.00	.00	.0	.00	.00	.00	.00	.00	.00	.00
JULY 06...	1900	.0	.00	.00	.0	.00	.00	.00	.00	.00	.00	.00
AUG. 30...	1720	.0	.00	.00	.0	.00	.00	.00	.01	.00	.00	.00
DATE	TIME	TOTAL HEPTACHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALATHION (UG/L)	TOTAL METHYL PARA-THION (UG/L)	TOTAL METHYL TRI-THION (UG/L)	TOTAL PARA-THION (UG/L)	TOTAL TOXAPHENE (UG/L)	TOTAL TRI-THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
MAY 07...	.00	.00	.00	--	.00	.00	.00	0	.00	.00	.00	.00
07...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00
JULY 06...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00
AUG. 30...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00

GUADALUPE RIVER BASIN

08178645 East Elm Creek at San Antonio, Tex.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°37'04", long 98°25'41", Bexar County, at mid-channel, 2.1 miles (3.4 km) upstream from West Elm Creek, 2.4 miles (3.9 km) upstream from Farm Road 1604, and 6.9 miles (11.1 km) north of San Antonio International Airport.

DRAINAGE AREA.--2.33 mi² (6.03 km²).

PERIOD OF RECORD.--Discharge (storm hydrographs): November 1975 to September 1976.

Periodic water-quality data: Chemical, biochemical, pesticide and bacteria analyses: May to September 1976. Water temperatures: May to September 1976.

GAGE.--Digital recorders (water stage and rainfall). Gage not referenced to mean sea level.

PEAK DISCHARGE.--November 1975 to September 1976: Maximum discharge, 310 ft³/s (8.78 m³/s) May 7 (elevation, 6.78 ft or 2.067 m).

REMARKS.--Additional storm rainfall-runoff data for this site can be obtained from the report "Hydrologic Data for Urban Studies in the San Antonio, Texas Metropolitan Area, 1976."

PEAK DISCHARGE ABOVE BASE (100 FT³/S)
OR FOR WATER-QUALITY ANALYSIS

DATE	TIME	ELEV.	DISCHARGE
7-6	1820	5.70	168

DISCHARGE AND WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	CHEMICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	
MAY											
07...	0834	113	66	8.1	15.5	160	30	9.3	92	52	
07...	1020	47	95	7.4	15.5	170	20	8.6	85	50	
07...	1610	5.0	133	7.8	22.0	160	0	7.3	83	42	
JUL											
06...	1435	152	44	6.2	22.5	230	20	7.4	87	31	
06...	2031	20	78	6.3	23.0	220	10	7.1	85	--	
DATE	TIME	RIO-CHEMICAL OXYGEN DEMAND (MG/L)	IMNE-CULI-FORM PER 100 ML	FECAL COLI-FORM (COL. PER 100 ML)	STREP-TOCOCO (COL. ONIES PER 100 ML)	HARD-NESS (CA+MG) (MG/L)	NON-CARBONATE HARD-NESS (MG/L)	DISSOLVED CALCIUM (MG/L)	DISSOLVED MAGNESIUM (MG/L)	DISSOLVED SODIUM (MG/L)	SODIUM ADSORPTION RATIO
MAY											
07...	4.5	17000	8000	25000	27	0	10	.4	1.7	.1	
07...	3.7	8700	5200	12000	45	1	17	.7	1.9	.1	
07...	3.7	1400	1000	2400	67	3	25	1.1	1.9	.1	
JUL											
06...	3.4	34000	18000	43000	21	1	9.0	.1	.5	.0	
06...	4.6	21000	4000	30000	--	--	--	--	--	--	
DATE	TIME	DISSOLVED PHOSPHORIUM (MG/L)	HICARBONATE (MG/L)	CARBONATE (MG/L)	DISSOLVED SULFATE (MG/L)	DISSOLVED CHLORIDE (MG/L)	DISSOLVED FLUORIDE (MG/L)	DISSOLVED SILICA (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NON-FILTERABLE RESIDUE (MG/L)	
MAY											
07...	2.8	37	0	3.4	1.7	.4	8.8	42	62		
07...	3.5	54	0	3.7	2.3	.2	13	69	21		
07...	3.8	79	0	4.0	2.4	.2	14	95	5		
JUL											
06...	3.0	24	0	2.9	1.7	.1	9.6	37	41		
06...	--	--	--	--	--	--	--	--	--	17	
DATE	TIME	VOL. NON-FILTERABLE RESIDUE (MG/L)	TOTAL NITRATE (MG/L)	TOTAL NITRITE (MG/L)	TOTAL AMMONIA NITROGEN (MG/L)	TOTAL ORGANIC NITROGEN (MG/L)	TOTAL PHOSPHORUS (MG/L)	TOTAL ORGANIC CARBON (MG/L)	MTHE-LENE BLUE ACTIVE SUBSTANCE (MG/L)	OIL AND GREASE (MG/L)	
MAY											
07...	0	.14	.01	.04	.87	.08	11	.0	0		
07...	0	.15	.01	.04	1.1	.06	4.3	.1	0		
07...	0	.01	.01	.01	.06	.02	10	.1	0		
JUL											
06...	15	.23	.01	.03	.51	.27	12	.0	0		
06...	8	--	--	--	--	--	1.0	--	--		

GUADALUPE RIVER BASIN

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08178645 East Elm Creek at San Antonio, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		DIS- SOLVED ALUM- INUM (AL) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)				
DATE	TIME											
MAY												
07...	0834	40	0	20	0	0	0	2				
07...	1020	30	0	20	1	0	0	2				
07...	1610	20	0	40	0	0	0	1				
JULY												
06...	1835	60	0	40	0	0	0	3				
DATE	TIME	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)			
MAY												
07...	50	0	0	10	.2	0	30	0	0			
07...	60	0	0	0	.1	0	30	20	0			
07...	60	0	0	0	.4	0	50	0	0			
JULY												
06...	60	0	0	10	.1	0	100	20	0			
DATE	TIME	TOTAL PCP (UG/L)	POLY- CHLO- RINATED NAPH- THA- LENES (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLOR- DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)
MAY												
07...	0834	.0	.00	.00	.0	.00	.00	.00	.00	.00	.00	.00
07...	1020	.0	.00	.00	.0	.00	.00	.00	.00	.00	.00	.00
07...	1610	.0	.00	.00	.0	.00	.00	.00	.02	.00	.00	.00
JUNE												
07...	2031	.0	.00	.00	.0	.00	.00	.00	.00	.00	.00	.00
JULY												
06...	1835	.0	.00	.00	.0	.00	.00	.00	.00	.00	.00	.00
DATE	TIME	TOTAL HEPTA- CHLOR (UG/L)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
MAY												
07...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00
07...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00
07...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00
JUNE												
07...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00
JULY												
06...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00

GUADALUPE RIVER BASIN

08178690 Salado Creek tributary at Bitters Road, San Antonio, Tex.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°31'36", long 98°26'25", Bexar County, at culvert on Bitters Road immediately east of MacArthur High School in San Antonio.

DRAINAGE AREA.--0.26 mi² (0.67 km²).

PERIOD OF RECORD.--Discharge (storm hydrographs): October 1968 to current year.

Periodic water-quality data (revised): Chemical, biochemical, and pesticide analyses: November 1968 to current year. Sediment analyses: April to September 1973. Water temperatures: November 1968 to current year. Bacteria analyses: April to September 1976.

GAGE.--Digital recorders (water stage and rainfall). Gage not referenced to mean sea level.

PEAK DISCHARGE.--Current year: Maximum discharge, 162 ft³/s (4.59 m³/s) Apr. 4 (elevation, 6.06 ft or 1.847 m).
Period of record: Maximum discharge, 253 ft³/s (7.16 m³/s) May 7, 1972 (elevation, 7.88 ft or 2.402 m).

REMARKS.--Additional storm rainfall-runoff data for this site can be obtained from the report "Hydrologic Data for Urban Studies in the San Antonio, Texas Metropolitan Area, 1976."

PEAK DISCHARGE ABOVE BASE (50 FT³/S)
OR FOR WATER-QUALITY ANALYSIS

DATE	TIME	ELEV.	DISCHARGE
4-18	0600	4.08	62
8-30	1510	3.92	55

DISCHARGE AND WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	IMMEDIATE COLIFORM (COL. PER 100 ML)	FECAL COLIFORM (COL. PER 100 ML)
APR 18...	0655	20	71	6.8	13.0	60	20	11.0	104	4.2	140000	34000
MAY 20...	1140	2.8	--	--	22.5	--	--	--	--	--	--	--
AUG 30...	1637	13	52	7.6	25.0	48	15	7.4	91	5.8	280000	10000

DATE	100 ML	STREPTOCOCCI (COLONIES PER 100 ML)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISSOLVED PHOSPHATE (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)
APR 18...	150000	28	1	10	.8	1.1	.1	3.5	33	0	3.7	1.3	
MAY 20...	--	--	--	--	--	--	--	--	--	--	--	--	
AUG 30...	92000	17	0	6.5	.1	.8	.1	2.0	22	0	4.7	1.1	

DATE	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SiO2) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL FILTERABLE RESIDUE (MG/L)	VOL. FILTERABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)
APR 18...	.1	3.0	40	30	5	.43	.01	.15	.63	.46	23	.1
MAY 20...	--	--	--	--	--	--	--	--	--	--	--	--
AUG 30...	.1	1.1	28	39	11	.51	.01	.10	.49	.20	8.2	.1

GUADALUPE RIVER BASIN

303

08178690 Salado Creek tributary at Bitters Road, San Antonio, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		DIS-SOLVED ALUMINUM (AL) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	DIS-SOLVED CHROMIUM (CR) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)
DATE	TIME							
APR. 18...	0655	30	1	30	0	0	0	0
AUG. 30...	1637	30	1	20	0	0	0	6

		DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MANGANESE (MN) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED STRONTIUM (SR) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
DATE	TIME								
APR. 18...	20	5	0	0	.3	0	30	10	
AUG. 30...	50	46	10	10	.3	1	70	30	

		POLY-CHLORINATED NAPHTHALENES		TOTAL ALUMINUM	TOTAL CHLORIDANE	TOTAL DDD	TOTAL DDE	TOTAL DDT	TOTAL DI-AZINON	TOTAL DI-FLORIN	TOTAL ENDRIIN	TOTAL ETHION
DATE	TIME	TOTAL PCB	THA-LENES	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)
APR. 18...	0655	.0	.00	.00	.0	.00	.00	.00	.73	.02	.00	.00
AUG. 30...	1637	.0	.00	.02	.3	.02	.03	.02	.27	.01	.00	.00

		TOTAL HEPTA-CHLOR EPOXIDE	TOTAL LINDANE	TOTAL MALA-THION	TOTAL METHYL PARA-THION	TOTAL METHYL TRI-THION	TOTAL PARA-THION	TOTAL TOX-APHENE	TOTAL TRI-THION	TOTAL 2,4-D	TOTAL 2,4,5-T	TOTAL SILVEX
DATE	TIME	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)
APR. 18...	.00	.00	.00	.03	.00	.00	.00	0	.00	.04	.06	.00
AUG. 30...	.00	.02	.00	.03	.06	.00	--	0	--	.26	.01	.27

08178700 Salado Creek (upper station) at San Antonio, Tex.

LOCATION.--Lat 29°30'57", long 98°25'51", Bexar County, on upstream side of upstream bridge of two bridges on Interstate Highway 410 in San Antonio, 1.0 mile (1.6 km) west of Northeast School, 1.1 miles (1.8 km) upstream from Perrin-Beitel Creek, and 2.7 miles (4.3 km) east of San Antonio International Airport.

DRAINAGE AREA.--137 mi² (355 km²).

PERIOD OF RECORD.--Discharge: September 1960 to current year.

Water quality: Chemical, biochemical, and pesticide analyses: October 1968 to current year. Sediment analyses: October 1972 to September 1973.

GAGE.--Water-stage recorder with concrete control. Datum of gage is 684.60 ft (208.666 m) above mean sea level.

AVERAGE DISCHARGE.--16 years, 9.20 ft³/s (0.261 m³/s), 0.91 in/yr (23 mm/yr), 6,670 acre-ft/yr (8.22 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 3,870 ft³/s (110 m³/s) May 7 (gage height, 8.80 ft or 2.682 m); no flow for several days. Period of record: Maximum discharge, 24,900 ft³/s (705 m³/s) May 12, 1972 (gage height, 15.22 ft or 4.639 m), from rating curve extended above 8,000 ft³/s (227 m³/s) on basis of slope-area measurement of peak flow; no flow at times. Maximum stage since at least 1853, 23 to 24 ft (7.0 to 7.3 m) in October 1913. Flood in September 1921 reached a stage of 18 ft (5.5 m), and flood of Sept. 27, 1946, reached a stage of 18.2 ft (5.55 m), and are the highest since 1899.

REMARKS.--Discharge records good. No known diversion above station. Recording rain gage located at station with five additional recording rain gages located in watershed. At end of year, flow from 39.5 mi² (102 km²) above this station was partly controlled by six floodwater-retarding structures with a combined detention capacity of 14,300 acre-ft (17.6 hm³).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.65	1.4	.44	.52	.95	0	0	3.8	4.9	.37	.89	5.4
2	.39	.75	.46	.44	.90	.02	0	3.4	3.0	.25	.64	45
3	2.4	.43	.53	1.0	.90	.13	0	2.9	3.2	.40	3.8	14
4	2.0	.96	.37	.26	1.3	.02	6.1	.75	2.7	1.1	3.8	4.3
5	.81	.62	.58	1.4	1.2	0	1.1	1.9	1.5	8.5	1.1	2.9
6	1.1	.18	.92	.46	.82	.61	.91	3.0	2.7	8.4	1.2	2.7
7	.59	1.4	.28	.14	.41	.71	.23	1350	3.0	8.1	3.5	2.1
8	.76	1.1	.06	.43	.11	.29	.18	48	1.3	7.5	1.4	4.3
9	.66	.41	2.0	.46	1.1	.15	.52	12	1.5	9.0	1.4	4.0
10	.92	.73	.13	2.2	.76	.04	.16	11	2.1	9.9	1.1	1.6
11	1.1	2.4	.04	.90	.20	.01	.14	11	3.0	9.1	1.5	.64
12	.35	.39	.64	.45	.04	0	.22	10	1.1	9.4	1.3	2.1
13	.52	.33	.39	.49	2.0	0	.40	43	.51	10	1.4	3.2
14	1.2	1.1	.07	.75	.37	0	.09	12	.32	12	1.1	3.3
15	.47	.26	1.4	.51	.11	0	.25	5.3	1.8	8.4	.61	2.7
16	.82	2.3	.16	.64	.07	0	5.9	3.0	14	21	.99	2.1
17	.94	.63	.34	.42	.05	0	2.2	3.8	1.5	13	.85	5.2
18	1.4	1.2	.36	.82	.02	0	1	7.3	2.4	5.3	4.4	3.9
19	1.1	.94	.83	.54	0	.57	6.6	5.3	3.4	4.4	1.1	5.8
20	.75	.26	.47	1.2	.09	.25	17	6.6	2.1	4.0	1.1	3.3
21	1.1	1.7	.07	.91	.10	.92	4.2	6.1	2.4	3.0	.59	3.5
22	.65	.89	.02	.75	.03	0	3.1	4.6	.51	3.2	.24	3.4
23	.71	.44	1.9	1.4	.01	0	2.7	3.4	.18	1.5	2.7	1.8
24	2.6	1.4	7.4	.62	0	.12	.84	4.6	1.1	1.3	2.6	2.0
25	12	.48	3.9	.17	0	.33	.51	3.4	3.0	1.2	2.4	1.4
26	6.4	.89	1.7	1.6	.03	.09	2.5	17	2.4	2.1	.67	1.4
27	2.1	.37	.22	1.1	.01	.02	2.6	5.3	1.5	3.7	.92	2.0
28	.84	.50	.81	.87	0	.07	.98	4.6	.62	1.5	1.1	14
29	.35	.24	.33	.18	0	.12	23	3.8	.34	2.3	1.3	3.8
30	.90	.59	2.5	.92	---	.02	4.8	4.2	.37	1.5	50	1.8
31	1.5	---	.58	1.1	---	.01	---	3.5	---	1.1	14	---
TOTAL	48.15	25.94	30.40	23.65	11.64	3.60	148.29	1604.85	69.45	172.92	109.70	153.64
MEAN	1.55	.86	.98	.76	.40	.12	4.94	51.4	2.32	5.58	3.54	5.12
MAX	12	2.4	7.4	2.2	2.0	.71	61	1350	14	21	50	45
MIN	.35	.18	.02	.14	0	0	0	.75	.18	.25	.24	.64
CFSM	.01	.006	.007	.005	.002	0	.04	.38	.02	.04	.03	.04
IN.	.01	.007	.008	.006	.003	.0010	.04	.44	.02	.05	.03	.04
AC-FT	96	51	60	47	23	7.1	294	3180	138	343	218	305
(++)	2.63	.12	1.63	.89	.40	1.35	7.67	7.26	1.78	4.45	2.74	6.03

CAL YR 1975 TOTAL 2066.62 MEAN 5.66 MAX 234 MIN .02 CFSM .04 IN .56 AC-FT 4100 ++ 27.47
WTR YR 1976 TOTAL 2402.23 MEAN 6.56 MAX 1350 MIN 0 CFSM .05 IN .65 AC-FT 4760 ++ 36.95

PEAK DISCHARGE ABOVE BASE (150 FT³/S), OR FOR WATER-QUALITY ANALYSIS

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
4-18	0830	4.81	303	8-30	1930	4.66	285
5-7	1315	8.80	3,870	9-2	1630	4.17	214
5-13	0200	3.80	152				

++ Weighted-mean rainfall, in inches, based on six rain gages.

GUADALUPE RIVER BASIN

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08178700 Salado Creek (upper station) at San Antonio, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	CHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	IMMEDIATE COLIFORM (COL. PER 100 ML)	FECAL COLIFORM (COL. PER 100 ML)	
MAY 07...	1347	3570	139	8.0	20.5	140	360	8.3	91	5.2	17000	15000	
20...	1210	7.0	775	7.6	23.5	15	20	8.4	98	>8.8	2600	600	
		STREPTOCOCCI (COLONIES PER 100 ML)	HARDNESS (CA+MG) (MG/L)	NON-CALCAREOUS HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED PHOSPHATE (P) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	
DATE	TIME	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	
MAY 07...	37000	58	1	22	.4	3.9	.2	4.0	70	0	8.0	3.5	
20...	1400	330	75	120	4.6	30	.7	6.4	315	0	100	33	
		DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SiO2) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NON-FILTERABLE RESIDUE (MG/L)	VOL. NON-FILTERABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	METHYLENE BLUE ACTIVE SURSTANCE (MG/L)
DATE	TIME	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)
MAY 07...	.3	8.6	86	756	152	.41	.02	.08	1.6	.40	15	.0	
20...	.4	15	47	32	6	.45	.05	.15	.45	.05	4.6	.0	
		DIS-SOLVED ALUMINUM (AL) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	DIS-SOLVED CHROMIUM (CR) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)					
DATE		TIME	70	2	8	0	0	0	2				
MAY 07...		1347	30	1	140	0	0	0	2				
20...		1210											
		DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MANGANESE (MN) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED STRONTIUM (SR) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)				
DATE		TIME	50	0	10	40	.1	0	70	30			
MAY 07...		20	0	400	20	.1	0	560	10				
20...													
		POLYCHLORINATED NAPHTHALENES (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLORDANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI-AZINON (UG/L)	TOTAL DI-FLDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)		
DATE		TIME	.0	.00	.0	.00	.00	.00	.10	.00	.00	.00	
MAY 07...		1347	.0	.00	.0	.00	.00	.00	.03	.00	.00	.00	
20...		1210											
		TOTAL HEPTACHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALATHION (UG/L)	TOTAL METHYL PARATHION (UG/L)	TOTAL METHYL TRITHION (UG/L)	TOTAL PARATHION (UG/L)	TOTAL TOXAPHENE (UG/L)	TOTAL TRITHION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)	
DATE		TIME	.00	.00	.00	.00	.00	0	.00	.00	.09	.00	
MAY 07...		.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00	
20...		.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00	

GUADALUPE RIVER BASIN

08178736 Salado Creek tributary at Bee Street, San Antonio, Tex.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°26'37", long 98°27'13", Bexar County, 76 ft (23 m) downstream from culvert at intersection of Bee and Shirley Streets in San Antonio and 0.25 mile (0.40 km) north of Pershing Elementary School.

DRAINAGE AREA.--0.45 mi² (1.17 km²).

PERIOD OF RECORD.--Discharge (storm hydrographs): August 1969 to current year.

Periodic water-quality data: Chemical, biochemical, and pesticide analyses: September 1970 to current year. Sediment analyses: April (revised) to September 1973. Water temperatures: September 1970 (revised) to current year. Bacteria analyses: December 1975 to September 1976.

GAGE.--Digital recorders (water stage and rainfall). Gage not referenced to mean sea level. Prior to Sept. 29, 1971, at site 104 ft (32 m) upstream at same datum.

PEAK DISCHARGE.--Current year: Maximum discharge, 303 ft³/s (8.58 m³/s) May 26 (gage height, 7.28 ft or 2.219 m).
Period of record: Maximum discharge, 515 ft³/s (14.6 m³/s) June 8, 1975 (gage height, 9.01 ft or 2.746 m).

REMARKS.--Additional storm rainfall-runoff data for this site can be obtained from the report "Hydrologic Data for Urban Studies in the San Antonio, Texas Metropolitan Area, 1976."

PEAK DISCHARGE ABOVE BASE (60 FT³/S)
OR FOR WATER-QUALITY ANALYSIS

DATE	TIME	G.H.T.	DISCHARGE
12-24	0835	4.73	57
4-15	2200	4.68	54
5-20	1015	4.92	70

DISCHARGE AND WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	IMMEDIATE COLIFORM (COL. PER 100 ML)	FECAL COLIFORM (COL. PER 100 ML)
DEC 24...	1046	6.4	251	7.2	13.0	130	50	10.0	94	10	28000	6100
APR 16...	0005	11	103	7.8	15.0	50	60	9.2	90	7.3	55000	14000
MAY 20...	1155	9.8	135	7.5	21.5	65	30	7.8	88	>8.8	176000	52000

DATE	100 ML	STREPTOCOCCI (COLONIES PER 100 ML)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISSOLVED PHOSPHATE (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)
DEC 24...	44000	91	17	31	3.2	15	.7	3.6	90	0	28	12	
APR 16...	27000	39	0	14	.9	3.8	.3	2.5	47	0	6.6	3.0	
MAY 20...	26000	45	0	16	1.3	6.0	.4	3.2	55	0	12	4.8	

DATE	(MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SiO2) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL FILTRABLE RESIDUE (MG/L)	VOL. FILTRABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)
DEC 24...	.3	5.0	142	85	33	--	--	--	--	--	--	--	--
APR 16...	.2	3.3	58	154	26	.53	.01	.25	.74	.38	9.9	.1	
MAY 20...	.3	4.3	75	100	22	.47	.02	.13	.87	.32	12	.1	

GUADALUPE RIVER BASIN

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08178736 Salado Creek tributary at Bee Street, San Antonio, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		DIS-SOLVED ALUMINUM (AL) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	DIS-SOLVED CHROMIUM (CR) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)					
DATE	TIME												
APR. 16...	0005	20	1	140	0	0	0	3					
MAY 20...	1155	40	1	160	0	0	0	8					
		DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MANGANESE (MN) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED STRONTIUM (SR) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)				
DATE	TIME												
APR. 16...	0	8	0	10	.3	0	50	10					
MAY 20...	70	23	0	40	.1	0	100	10					
DATE	TIME	TOTAL PCB (UG/L)	POLY-CHLORINATED NAPHTHALENES (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLORDANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DIAZINON (UG/L)	TOTAL DIELDRIN (UG/L)	TOTAL ENDOSULFON (UG/L)	TOTAL ETHION (UG/L)	
APR. 16...	0005	.0	.00	.00	.4	.04	.01	.01	.10	.00	.00	.00	
MAY 20...	1155	.0	.00	.00	.2	.00	.00	.01	.10	.00	.00	.00	
DATE	TIME	TOTAL HEPTACHLOR (UG/L)	TOTAL HEPTACHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALATHION (UG/L)	TOTAL METHYL PARATHION (UG/L)	TOTAL METHYL TPI-THION (UG/L)	TOTAL PARA-THION (UG/L)	TOTAL TOXAPHENE (UG/L)	TOTAL TPI-THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
APR. 16...	.01	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00	.00
MAY 20...	.00	.00	.00	--	.00	.00	.00	0	.00	.00	.01	.00	

GUADALUPE RIVER BASIN

08178800 Salado Creek (lower station) at San Antonio, Tex.

LOCATION.--Lat 29°21'25", long 98°24'45", Bexar County, on right bank at upstream side of bridge on Loop 13 at San Antonio, 1.4 miles (2.3 km) east of Brooks Air Force Base, and 3.3 miles (5.3 km) upstream from Rosillo Creek.

DRAINAGE AREA.--189 mi² (490 km²).

PERIOD OF RECORD.--Discharge: September 1950 to current year.

Water quality: Chemical, biochemical, and pesticide analyses: October 1968 to current year. Sediment analyses: October 1972 to September 1973.

GAGE.--Water-stage recorder. Datum of gage is 526.95 ft (160.614 m) above mean sea level.

AVERAGE DISCHARGE.--16 years, 39.2 ft³/s (1.110 m³/s), 2.82 in/yr (72 mm/yr), 28,400 acre-ft/yr (35.0 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 3,600 ft³/s (102 m³/s) May 7 (gage height, 19.09 ft or 5.819 m); minimum, 16 ft³/s (0.45 m³/s) Nov. 12.

Period of record: Maximum discharge, 13,100 ft³/s (371 m³/s) Sept. 27, 1973 (gage height, 28.83 ft or 8.787 m); no flow Aug. 13, 1967.

Maximum stage since at least 1941, that of Sept. 27, 1973. Floods of Sept. 27, 1946, and Aug. 15, 1960, were about equal magnitude. Flood of Aug. 15, 1960, reached a stage of 26.8 ft (8.17 m), from floodmarks.

REMARKS.--Discharge records good. Small diversions above station. Most of low flow comes from artesian wells and springs in city of San Antonio. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see station 08178700.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	19	21	21	21	19	29	51	46	21	25	43
2	24	20	21	20	24	19	23	44	45	22	24	123
3	24	20	22	19	21	19	29	43	37	22	24	180
4	25	20	23	20	22	19	126	41	34	168	23	43
5	24	19	23	20	22	19	76	47	32	326	25	28
6	25	19	22	20	22	94	44	51	30	100	24	26
7	27	19	21	20	22	57	38	1590	30	62	23	26
8	28	19	21	19	20	30	57	815	30	54	23	26
9	29	19	22	19	20	23	36	104	28	90	23	26
10	29	19	22	20	20	20	33	83	27	149	22	26
11	26	18	22	21	20	19	33	76	26	148	21	25
12	25	18	22	22	20	19	32	74	27	78	20	25
13	26	19	22	31	21	24	31	439	27	71	20	25
14	31	19	23	20	21	25	31	107	25	77	21	25
15	31	20	23	19	21	21	33	67	25	94	21	25
16	34	21	23	18	21	28	146	58	39	112	20	25
17	31	20	23	19	23	37	58	54	53	109	20	25
18	23	21	22	19	22	31	396	52	33	52	51	29
19	20	20	22	19	21	29	150	53	30	39	77	149
20	20	20	23	32	21	30	116	105	27	35	24	96
21	20	20	23	28	22	30	85	77	27	34	22	46
22	20	20	23	21	22	30	49	56	26	32	21	31
23	21	20	23	20	21	32	44	52	24	31	20	26
24	20	20	23	20	19	45	52	50	23	29	20	24
25	172	21	96	20	19	33	57	50	23	28	20	23
26	320	21	30	20	20	31	42	482	33	28	20	23
27	37	22	24	19	19	30	40	93	35	27	20	32
28	23	22	22	20	20	31	41	56	27	27	21	175
29	22	24	20	20	20	30	167	40	24	26	23	72
30	20	22	21	20	---	29	116	36	23	26	45	32
31	19	---	21	20	---	28	---	37	---	25	254	---
TOTAL	1220	601	839	646	607	931	2215	5183	916	2142	1017	1480
MEAN	39.4	20.0	27.1	20.8	20.9	30.0	73.8	167	30.5	69.1	32.8	49.3
MAX	320	24	96	32	24	44	396	1590	53	326	254	180
MIN	19	18	20	18	19	19	28	36	23	21	20	23
CFSM	.21	.11	.14	.11	.11	.16	.39	.88	.16	.37	.17	.26
IN.	.24	.12	.17	.13	.12	.18	.44	1.02	.14	.42	.20	.29
AC-FT	2420	1190	1660	1280	1200	1850	4390	10280	1820	4250	2020	2940
(††)	2.65	.10	1.62	.75	.32	1.39	7.21	7.11	1.62	4.82	2.60	5.49

CAL YR 1975	TOTAL	17566	MEAN	48.1	MAX	1230	MIN	18	CFSM	.25	IN	3.46	AC-FT	34840	††	27.35
WTR YR 1976	TOTAL	17797	MEAN	48.6	MAX	1590	MIN	18	CFSM	.26	IN	3.50	AC-FT	35300	††	35.68

PEAK DISCHARGE BASE (600 FT³/S), OR FOR WATER-QUALITY ANALYSIS

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
10-26	0200	11.87	682	5-13	1200	12.43	817
12-24	2300	8.96	189	5-26	0900	14.98	1,640
4-16	0700	9.17	219	7- 4	2400	13.26	1,050
4-18	1900	12.13	742			about	
5- 7	2000	19.09	3,600	8-31	0800	all.5	607

†† Weighted-mean rainfall, in inches, based on eight rain gages.

a From graph.

GUADALUPE RIVER BASIN

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08178800 Salado Creek (lower station) at San Antonio, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		INSTAN- TANEOUS DIS- CHARGE (CFS)	SPH- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBAL T UNITS)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)	IMME- DIATE COLI- FORM (COL. PER 100 ML)	FECAL COLI- FORM (COL. PER 100 ML)	
DATE	TIME												
DEC. 24...	1235	175	567	7.8	12.5	28	150	10.0	93	4.2	28000	7000	
APR. 16...	0130	133	364	7.8	17.1	55	150	9.1	94	12	52000	24000	
16...	1315	190	387	7.8	18.1	25	240	7.8	82	7.5	77000	50000	
MAY 07...	1547	1780	223	7.6	21.4	--	--	7.6	84	5.6	98000	45000	
07...	2140	3720	197	7.7	20.6	120	380	7.8	85	5.2	94000	27000	
		STREP- TOCOCCT (COL- ONIES PER 100 ML)	HARD- NESS (CA+MG) (MG/L)	NON- CAP- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
DATE													
DEC. 24...	21000	200	51	63	11	34	1.0	4.0	186	0	49	55	
APR. 16...	83000	130	30	41	7.7	22	.8	4.6	128	0	31	32	
16...	60000	160	22	47	9.4	19	.7	3.5	164	0	26	26	
MAY 07...	100000	--	--	--	--	--	--	--	--	--	--	--	--
07...	74000	71	4	25	2.1	9.3	.5	5.5	82	0	19	7.0	
		DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTIT- UENTS) (MG/L)	TOTAL NON- FILT- RABLE RESIDUE (MG/L)	VOL. NON- FILT- RABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)
DATE													
DEC. 24...	.2	8.7	319	291	42	.76	.01	.07	.20	.23	--	--	
APR. 16...	.3	8.1	211	412	56	.78	.02	.16	1.7	.44	5.7	.1	
16...	.4	8.8	222	832	504	.72	.02	.21	1.4	.46	31	.1	
MAY 07...	--	--	--	--	--	--	--	--	--	--	--	--	--
07...	.4	8.9	118	1140	256	.48	.03	.14	1.8	.52	20	.1	

GUADALUPE RIVER BASIN

08178800 Salado Creek (lower station) at San Antonio, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	DIS-SOLVED ALUMINUM (AL) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	DIS-SOLVED CHROMIUM (CR) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)
DEC. 24...	1235	20	1	140	0	0	0	3
APR. 16...	0130	20	2	130	0	0	0	4
16...	1315	40	1	40	0	5	0	5
MAY 07...	2140	70	3	80	0	0	0	0

DATE	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MANGANESE (MN) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED STRONTIUM (SR) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
DEC. 24...	180	0	20	20	.5	0	700	20
APR. 16...	40	3	10	10	.2	0	470	20
16...	40	0	10	5	.1	3	700	20
MAY 07...	60	0	100	0	.1	0	150	40

DATE	TIME	TOTAL PCB (UG/L)	POLY-CHLORINATED NAPHTHALENES (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLORDANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DIAZINON (UG/L)	TOTAL DIELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)
APR. 16...	0130	.0	.00	.00	.1	.00	.00	.00	.17	.01	.00	.00
16...	1315	.0	.00	.00	.0	.00	.01	.04	.08	.01	.00	.00
MAY 07...	2140	.0	.00	.00	.1	.00	.00	.02	.21	.02	.00	.00

DATE	TOTAL HEPTACHLOR (UG/L)	TOTAL HEPTACHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALATHION (UG/L)	TOTAL METHYL PARATHION (UG/L)	TOTAL METHYL TRITHION (UG/L)	TOTAL PARATHION (UG/L)	TOTAL TOXAPHENE (UG/L)	TOTAL TRIETHION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
APR. 16...	.00	.00	.00	.01	.00	.00	.00	0	.00	.00	.05	.00
16...	.00	.00	.10	.00	.00	.00	.00	0	.00	.00	.03	.02
MAY 07...	.00	.00	.00	--	.00	.00	.00	0	.00	.00	.05	.04

GUADALUPE RIVER BASIN

311

08179000 Medina River near Pipe Creek, Tex.

LOCATION.--Lat 29°40'31", long 98°58'33", Bandera County, on right bank 500 ft (150 m) upstream from Bandera Falls, 0.6 mile (1.0 km) upstream from Red Bluff Creek, and 4.1 miles (6.6 km) southwest of Pipe Creek.

DRAINAGE AREA.--474 mi² (1,228 km²).

PERIOD OF RECORD.--Discharge: October 1922 to June 1935, October 1952 to current year. Monthly discharge only for some periods, published in WSP 1312 and 1732.

Water quality: Chemical, biochemical, and pesticide analyses: January 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,067.37 ft (325.334 m) above mean sea level, unadjusted. December 1922 to June 1935, water-stage recorder at site 1.9 miles (3.1 km) upstream at different datum.

AVERAGE DISCHARGE.--36 years (1922-34, 1952-76), 130 ft³/s (3.682 m³/s), 3.72 in/yr (94 mm/yr), 94,180 acre-ft/yr (116 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 3,730 ft³/s (106 m³/s) June 25 (gage height, 10.22 ft or 3.115 m); minimum, 34 ft³/s (0.96 m³/s) Apr. 1, 2.

Period of record: Maximum discharge, 72,900 ft³/s (2,060 m³/s) July 15, 1973 (gage height, 37.3 ft or 11.37 m, from floodmark), from rating curve extended above 32,000 ft³/s (906 m³/s) on basis of slope-area measurement of 64,000 ft³/s (1,810 m³/s); minimum, 0.2 ft³/s (0.006 m³/s) July 14-16, 1956.

Maximum stage since at least 1880, about 43 ft (13.1 m) in 1919, present site and datum, from information by local resident.

REMARKS.--Discharge records good. Small diversion above station.

REVISIONS (WATER YEARS).--WSP 1312: 1925(M). WSP 1923: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	75	81	59	63	50	43	35	192	180	114	244	132
2	74	80	59	61	50	42	34	181	173	109	234	453
3	71	87	59	58	49	42	37	170	166	105	224	537
4	73	83	61	57	49	42	144	163	160	119	217	224
5	74	80	62	58	49	40	270	173	159	159	212	191
6	74	78	60	59	48	38	294	176	177	347	204	171
7	73	76	59	58	47	38	207	474	158	289	196	160
8	72	74	58	56	47	43	169	516	151	165	189	153
9	71	74	58	56	48	43	140	369	145	178	181	145
10	70	70	58	57	49	41	120	334	138	266	175	138
11	70	67	59	57	45	41	110	304	134	478	168	135
12	69	65	58	57	45	41	100	324	130	366	163	133
13	69	62	59	57	44	40	93	448	128	323	159	131
14	68	63	58	56	44	39	93	285	121	329	156	130
15	67	65	60	54	45	40	94	265	117	378	151	124
16	69	67	62	54	45	39	250	247	112	800	147	122
17	69	66	60	54	45	38	219	233	109	811	142	122
18	69	65	57	54	45	38	823	221	109	576	157	118
19	68	65	56	54	45	40	262	214	139	487	173	133
20	65	61	57	53	47	41	326	225	126	434	152	196
21	65	61	57	52	46	38	274	229	110	409	145	178
22	66	60	56	52	44	38	239	215	107	390	135	146
23	66	61	56	52	43	38	220	204	101	358	128	134
24	66	62	77	52	43	41	209	195	96	338	123	127
25	113	61	101	52	43	44	213	188	903	322	119	124
26	144	61	83	51	43	44	202	353	237	308	116	121
27	104	61	78	50	43	42	187	249	167	295	115	122
28	96	62	71	50	43	39	180	214	147	284	112	191
29	88	66	67	51	43	39	207	199	134	271	510	149
30	83	62	63	51	---	37	215	190	122	261	213	140
31	80	---	63	51	---	36	---	187	---	253	146	---
TOTAL	2392	2045	1951	1697	1327	1245	5966	7937	4956	10322	5506	5080
MEAN	76.8	66.2	62.9	54.7	43.8	40.2	199	256	165	333	178	169
MAX	144	87	101	63	50	44	823	516	903	811	510	537
MIN	65	60	56	50	43	36	34	163	96	105	112	118
CFSM	.18	.14	.13	.12	.10	.08	.42	.54	.35	.70	.38	.36
IN.	.19	.16	.15	.13	.10	.10	.47	.62	.39	.81	.43	.40
AC-FT	4720	4060	3870	3370	2630	2470	11830	15740	9830	20470	10920	10080
CAL YR 1975 TOTAL	109636	MEAN 276	MAX 3120	MIN 56	CFSM .58	IN 7.90	AC-FT 199600					
WTR YR 1976 TOTAL	50414	MEAN 138	MAX 903	MIN 34	CFSM .29	IN 3.96	AC-FT 100000					

PEAK DISCHARGE (BASE, 1,600 FT³/S)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
4-18	0300	8.00	1,650	7-16	1800	8.01	1,660
6-25	1200	10.22	3,730	8-29	1700	8.44	2,000
7-6	2100	8.55	2,100	9-2	2400	8.99	2,490

GUADALUPE RIVER BASIN

08179000 Medina River near Pipe Creek, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)	IMME- DIATE COLI- FORM (COL. PER 100 ML)	FECAL COLI- FORM (COL. PER 100 ML)
NOV. 18...	1045	66	579	7.5	19.0	0	4	8.2	87	.4	130	82
JAN. 12...	1130	61	596	7.7	11.0	0	2	10.3	93	.8	20	6
MAR. 04...	1120	44	572	7.8	17.0	0	7	9.0	93	.7	56	31
MAY 03...	1130	155	503	7.5	20.0	0	10	8.9	97	.4	190	44
JULY 26...	1200	300	529	7.6	25.0	0	10	8.1	100	.1	360	60
SEP. 27...	1150	140	558	7.6	24.0	0	5	8.2	100	.5	540	100

DATE	STRIPP- TOCOCCT (COL- ONIES PER 100 ML)	HARD- NESS (CA+MG) (MG/L)	NON- CAL- HONATE HARD- NESS (MG/L)	DTS- SOLVED CAL- CIUM (CA) (MG/L)	DTS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DTS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DTS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DTS- SOLVED SULFATE (SO4) (MG/L)	DTS- SOLVED CHLOR- IDE (CL) (MG/L)
NOV. 18...	92	280	76	74	23	12	.3	1.0	248	0	77	18
JAN. 12...	91	310	100	88	21	13	.3	1.5	252	0	81	18
MAR. 04...	350	280	93	78	21	9.1	.2	1.5	230	0	84	17
MAY 03...	180	250	64	71	17	7.9	.2	1.3	224	0	60	14
JULY 26...	340	260	54	76	18	9.5	.3	1.4	256	0	46	14
SEP. 27...	240	280	67	80	20	10	.3	1.0	260	0	65	16

DATE	DTS- SOLVED FLUO- RIDE (F) (MG/L)	DTS- SOLVED SILICA (SiO2) (MG/L)	DTS- SOLVED SOLIDS (SUM OF CONSTIT- TUENTS) (MG/L)	TOTAL NON- FILT- RABLE RESIDUE (MG/L)	VOL. NON- FILT- RABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
NOV. 18...	.3	8.1	336	7	1	.23	.00	.01	.30	.01	3.2
JAN. 12...	.3	8.8	357	5	2	.31	.00	.01	.01	.01	1.0
MAR. 04...	.3	10	334	15	3	.46	.01	.03	.27	.02	--
MAY 03...	.3	10	292	18	1	.14	.01	.00	.18	.00	1.8
JULY 26...	.3	13	304	21	4	.85	.00	.01	.04	.01	1.2
SEP. 27...	.3	13	335	9	2	.41	.00	.00	.34	.00	1.8

GUADALUPE RIVER BASIN

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08179000 Medina River near Pipe Creek, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		DIS- SOLVED ALUM- INUM (AL) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)					
DATE	TIME												
JAN. 12...	1130	10	0	70	3	0	0	0					
SEP. 27...	1150	0	0	--	1	1	0	0					
		DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)				
DATE	TIME												
JAN. 12...		0	3	10	0	.0	0	1100	20				
SEP. 27...		0	3	10	0	.0	2	1000	10				
POLY- CHLO- -INATED													
DATE	TIME	TOTAL PCH (UG/L)	TOTAL THA- LENES (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLOR- DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	
JAN. 12...	1130	.0	--	.00	.0	.00	.00	.00	.00	.00	.00	.00	
SEP. 27...	1150	.0	.00	.00	.0	.00	.00	.00	.00	.00	.00	.00	
DATE	TIME	TOTAL HEPTA- CHLOR (UG/L)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
JAN. 12...		.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00	.00
SEP. 27...		.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00	.00

GUADALUPE RIVER BASIN

08179100 Red Bluff Creek near Pipe Creek, Tex.

LOCATION.--Lat 29°40'51", long 98°57'19", Bandera County, on left bank 0.8 mile (1.3 km) upstream from bridge on Farm Road 1283, 1.8 miles (2.9 km) downstream from Pipe Creek, 1.9 miles (3.1 km) upstream from mouth, and 3.2 miles (5.1 km) south of Pipe Creek.

DRAINAGE AREA.--56.3 mi² (145.8 km²).

PERIOD OF RECORD.--April 1956 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,107.2 ft (337.475 m) above mean sea level, unadjusted.

AVERAGE DISCHARGE.--20 years, 12.3 ft³/s (0.348 m³/s), 2.97 in/yr (75 mm/yr), 8,910 acre-ft/yr (11.0 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 4,790 ft³/s (136 m³/s) Apr. 18 (gage height, 9.36 ft or 2.853 m), from rating curve extended above 2,000 ft³/s (56.6 m³/s) as explained below; no flow for many days.

Period of record: Maximum discharge, 46,900 ft³/s (1,330 m³/s) Sept. 27, 1964 (gage height, 22.64 ft or 6.901 m), from rating curve extended above 2,000 ft³/s (56.6 m³/s) on basis of slope-area measurement of peak flow; no flow for many days each year.

Maximum stage since at least 1905, that of Sept. 27, 1964. A stage of about 17 ft (5.2 m) was reached in July 1937. Flood in October 1953 reached a stage of 13.8 ft (4.21 m).

REMARKS.--Records good. Small dams on upstream tributaries affect flow during time of storm runoff. No known diversion.

REVISIONS.--WSP 1923: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							0	22	18	0	19	.22
2							0	20	16	0	16	19
3							0	17	14	0	13	15
4							0	14	12	0	11	10
5							0	28	11	.28	9.6	7.2
6							0	19	9.7	0	7.1	4.7
7							0	241	7.4	0	4.7	3.0
8							0	115	6.7	0	2.9	1.2
9							0	95	5.6	0	1.0	.07
10							0	83	4.4	11	.12	0
11							0	70	3.4	88	0	0
12							0	103	3.2	70	0	0
13							0	141	2.1	65	0	0
14							0	84	.82	65	0	0
15							0	75	.29	64	0	0
16							0	65	.02	64	0	0
17							0	56	0	62	0	0
18							867	50	0	57	3.2	0
19							125	46	0	53	2.7	0
20							132	51	0	49	0	11
21							96	44	0	47	0	1.6
22							73	38	0	44	0	0
23							58	34	0	40	0	0
24							48	31	0	36	0	0
25							39	28	26	35	0	0
26							32	39	2.5	31	0	0
27							27	27	.02	29	0	0
28							24	24	0	26	0	.82
29							38	22	0	24	40	.26
30					---	---	26	20	0	22	16	0
31		---			---	---	---	20	---	21	3.8	---
TOTAL	0	0	0	0	0	0	1585	1722	143.15	1003.28	150.12	74.07
MEAN	0	0	0	0	0	0	52.8	55.5	4.77	32.4	4.84	2.47
MAX	0	0	0	0	0	0	867	241	26	88	40	19
MIN	0	0	0	0	0	0	0	14	0	0	0	0
CFSM	0	0	0	0	0	0	.94	.99	.08	.58	.09	.04
IN.	0	0	0	0	0	0	1.05	1.14	.09	.66	.10	.05
AC-FT	0	0	0	0	0	0	3140	3420	284	1990	298	147

CAL YR 1975 TOTAL 6404.20 MEAN 17.5 MAX 594 MIN 0 CFSM .31 IN 4.23 AC-FT 12700
WTR YR 1976 TOTAL 4677.62 MEAN 12.8 MAX 867 MIN 0 CFSM .23 IN 3.09 AC-FT 9280

PEAK DISCHARGE (BASE, 200 FT³/S)

DATE	TIME	G.HT.	DISCHARGE
4-18	0200	9.36	4,790
5-7	0600	5.90	1,080
5-12	2330	5.37	775

08179500 Medina Lake near San Antonio, Tex.

LOCATION.--Lat 29°32'24", long 98°56'01", Medina County, at gate operating platform, 576 ft (176 m) from left end of Medina Dam on Medina River, 4.2 miles (6.8 km) upstream from Medina diversion dam, 13 miles (21 km) north of Castrovilla, 28 miles (45 km) west of San Antonio, and at mile 70.4 (113.3 km).

DRAINAGE AREA.--634 mi² (1,642 km²).

PERIOD OF RECORD.--Contents: May 1913 to current year. Prior to October 1967, monthend contents only.
Water quality: Chemical analyses: October 1969 to current year.

GAGE.--Nonrecording gage read once daily if stage changing materially, otherwise intermittently. Datum of gage is 7.80 ft (2.377 m) below mean sea level.

EXTREMES (at 0800).--Current year: Maximum contents, 258,100 acre-ft (318 hm³) July 14-21 (gage height, 1,072.7 ft or 326.96 m); minimum, 213,200 acre-ft (263 hm³) Apr. 3, 4 (gage height, 1,064.2 ft or 324.37 m).
Period of record: Maximum contents observed, 288,800 acre-ft (356 hm³) Sept. 16, 1919 (gage height, 1,078.0 ft or 328.57 m); minimum observed since lake first filled, 780 acre-ft (0.962 hm³) about Apr. 11, 1948 (gage height, 944.0 ft or 287.73 m).

REMARKS.--The lake is formed by a gravity-type concrete dam 1,580 ft (482 m) long. The dam was completed and storage began May 7, 1913. The uncontrolled spillway section is a cut through natural rock 880 ft (268 m) long, with a 3-foot-wide (1-meter) cutoff wall, located near right end of dam. The dam and lake are owned by the Bexar-Medina-Atascosa Counties Water Improvement District No. 1, which has a permit from the Texas Water Rights Commission to irrigate 150,000 acres (60,700 hm²) annually. An undetermined amount of water from the lake enters the Edwards and associated limestones in the Balcones Fault Zone, part of which is above and part below the dam. Water is released downstream to Medina Diversion Reservoir where it is diverted into Medina Canal by the Water District. Data regarding the dam and lake are given in the following table:

	Gage height (feet)	Capacity (acre-feet)
Top of dam.....	1,084.0	-
Crest of spillway.....	1,072.0	254,000
Water-supply outlet pipes (invert).....	966.5	4,780
Lowest gated outlet (invert).....	920.0	0

COOPERATION.--Capacity table, based on survey made prior to June 1912, and gage-height record furnished by Bexar-Medina-Atascosa Counties Water Improvement District No. 1.

REVISIONS.--WSP 1923: Drainage area.

Capacity table (gage height, in feet, and contents, in acre-feet)

1,060.0	192,000
1,070.0	242,400
1,080.0	300,300

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	247100	240400	235900	231300	225800	220200	213700	233900	252900	255200	255700	255200
2	247100	240400	235400	231300	226800	220200	213700	234400	253400	254600	255700	255200
3	246500	240400	235400	231300	226300	219700	213200	234400	253400	254600	255700	256300
4	245900	240400	235400	230800	226300	219200	213200	234400	253400	255200	255700	256300
5	245300	240400	235400	230800	226300	219200	214700	234400	253400	255200	255700	255700
6	245300	240400	235400	230800	226300	218700	215200	235400	253400	255200	255200	255700
7	244700	239900	234900	230800	226300	218200	215200	237400	253400	255700	255200	255200
8	244700	239900	234400	230300	225800	218200	215700	239400	254000	255700	255200	255200
9	244700	239900	234400	230300	225800	217700	215700	241400	254000	256300	255200	255200
10	244200	239900	234400	230300	225800	217700	215700	242400	253400	256300	255200	255200
11	244200	239900	234400	230300	225300	217200	215700	243000	253400	256300	255200	254600
12	244200	239400	233900	229800	225300	217200	215200	243600	253400	257500	255200	254600
13	243600	239400	233900	229800	224800	217200	215200	245300	253400	257500	254600	254600
14	243600	239400	233400	229800	224800	217200	215200	245900	253400	258100	254600	254000
15	243000	239400	233400	229300	224800	217200	215200	246500	253400	258100	254600	254000
16	242400	239400	233400	229300	224300	216700	216200	247000	253400	258100	254600	254000
17	242400	238900	233400	229300	224300	216200	216200	247000	253400	258100	254600	254600
18	242400	239900	232800	228800	223800	215700	226800	247600	253400	258100	254600	254000
19	241900	239400	232800	228800	223300	215700	228800	248200	253400	258100	254600	254000
20	241400	238400	232300	228800	223300	215700	229300	248800	252900	258100	254600	255200
21	241400	237400	232300	228800	222800	215200	230300	248800	252900	258100	254600	255200
22	241400	237400	232300	228300	222300	215200	230800	249400	252300	257500	254600	254600
23	240900	237400	232800	228300	221800	215200	231300	250000	251700	257500	254000	255200
24	240900	236900	232300	228300	221300	215200	231800	250500	251700	257500	254000	254600
25	240900	236900	232300	228300	221800	215200	232300	250500	253400	256900	254000	254600
26	241400	236900	232300	228300	221200	215200	232800	251700	255200	256900	254000	254600
27	241400	236400	232300	227800	221200	215200	233400	251700	255200	256300	254000	254600
28	241400	236400	232300	227800	220700	214700	233400	252300	255200	256300	253400	255200
29	240900	236400	231800	227300	220700	214200	233400	252300	255200	256300	255200	255200
30	240900	236400	231800	227300	---	214200	233900	252300	255200	256300	255700	255200
31	240900	---	231800	227300	---	213700	---	252300	---	255700	255200	---
(+)	1069.7	1068.8	1067.9	1067.0	1065.7	1064.3	1068.3	1071.7	1072.2	1072.3	1072.2	1072.2
(*)	-6200	-4500	-4600	-4500	-6600	-7000	+20200	+18400	+2900	+500	-500	0
MAX	247100	240400	235900	231300	226800	220200	233900	252300	255200	258100	255700	256300
MIN	240900	236400	231800	227300	220700	213700	213200	233900	251700	254600	253400	254000

CAL YR 1975..... * -23900

MAX 263900

MIN 231800

WTR YR 1976..... * +8100

MAX 258100

MIN 213200

+ Gage height, in feet, at end of month.

* Change in contents, in acre-feet.

GUADALUPE RIVER BASIN

08179500 Medina Lake near San Antonio, Tex.--Continued

WATER QUALITY DATA* WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	SPH- CIFIC CON- DUCT- ANCE (MICRO- MOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HAZ- DOSS (CA+MG) (MG/L)	NON- CAR- BONATE +AM- MONI- NEN (MG/L)	DIS- SOLVED CAL- CIUM (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG/L)	DIS- SOLVED SODIUM (MG/L)
MO-2									
1...	1105	434	6.0	13.5	220	61	50	16	8.7
SD									
29...	0906	389	6.3	24.5	190	51	50	16	8.5
DATE	TIME	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	ALCAL- PHOSPHATE (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (MG/L)
MO-2									
1...		.3	1.5	194		51	16	.3	11
SD									
29...		.3	1.9	176		47	14	.2	11

GUADALUPE RIVER BASIN

317

08180000 Medina Canal near Riomedina, Tex.

LOCATION.--Lat 29°30'19", Long 98°54'11", Medina County, in center of canal, 54 ft (16 m) upstream from center pier of double-barrel flume, 350 ft (107 m) downstream from county highway bridge, 1,900 ft (579 m) downstream from head of canal and diversion dam, 4.6 miles (7.4 km) downstream from Medina Dam, 4.7 miles (7.6 km) north of Riomedina, and 25 miles (40 km) northwest of San Antonio.

PERIOD OF RECORD.--March 1922 to May 1934, July 1957 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 910 ft (277 m), from topographic map.

AVERAGE DISCHARGE.--30 years (1922-33, 1957-76), 39.9 ft³/s (1.130 m³/s), 28,910 acre-ft/yr (35.6 hm³/yr).

EXTREMES.--Period of record: Maximum daily discharge, 216 ft³/s (6.12 m³/s) May 6, 1971; no flow at times.

REMARKS.--Records good. Station is above all diversions from canal. Canal diverts from right end of Medina Diversion Dam 1,900 ft (579 m) upstream from gage for irrigation downstream near Lacoste and Natalia.

REVISIONS (WATER YEARS).--WSP 568: 1922. WSP 1712: 1922(M), 1924, 1926.

DISCHARGE* IN CUBIC FEET PER SECOND* WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	99	0	51	15	59	117	43	.01	.15	95	34	86
2	88	0	68	8.8	64	130	60	.03	.13	104	35	92
3	61	0	79	6.4	66	133	52	9.2	21	92	48	99
4	69	19	80	6.6	56	141	13	26	46	70	47	105
5	69	54	77	6.6	61	137	.01	15	33	34	59	86
6	76	44	76	12	63	115	0	.18	29	20	72	71
7	106	32	62	26	57	47	0	.69	68	21	72	70
8	109	18	46	26	52	28	0	.06	114	20	72	69
9	22	16	49	28	55	28	0	.07	122	20	84	69
10	75	35	49	31	63	28	0	.06	123	11	96	69
11	78	43	49	31	65	29	0	.36	121	.08	82	69
12	53	34	50	31	68	29	.01	.04	121	.05	76	69
13	58	33	40	40	81	29	.02	.03	106	.05	83	69
14	49	32	26	46	94	11	.04	.02	85	.09	70	73
15	87	38	26	29	101	.01	21	.01	78	.06	59	72
16	57	48	26	29	96	7.8	8.0	.01	67	.10	86	57
17	42	48	26	29	68	22	.24	.01	88	.16	89	45
18	51	43	26	29	61	33	.53	.01	104	.16	58	44
19	72	33	26	30	75	38	.01	.03	98	.13	43	36
20	61	43	26	30	93	29	.02	.08	102	.14	60	29
21	61	52	26	29	96	23	0	.01	104	15	61	29
22	66	49	38	29	87	25	0	.01	107	9.7	48	29
23	78	48	44	27	86	37	0	0	122	.11	56	29
24	46	58	15	22	98	29	.01	0	142	.10	61	29
25	42	66	.05	16	94	24	0	0	161	.03	76	26
26	.06	65	.04	11	76	24	0	.10	133	.05	91	13
27	0	52	.02	27	95	23	0	7.8	75	29	91	8.3
28	0	45	7.9	31	110	23	0	30	68	67	79	.14
29	0	39	26	32	110	24	.16	21	96	60	67	0
30	0	35	27	46	23	23	.11	.23	101	47	62	0
31	0	24	24	58	26	26	---	.18	---	47	73	---
TOTAL	1747.06	1122	1166.01	818.4	2250	1412.81	198.16	110.93	2635.28	763.06	2090	1542.44
MEAN	58.0	37.4	37.6	26.4	77.6	45.6	6.61	3.58	87.8	24.6	67.4	51.4
MAX	109	66	80	58	110	141	60	40	161	104	96	105
MIN	0	0	.02	6.4	52	.01	0	0	.11	.05	34	0
AC-FT	3560	2230	2310	1620	4460	2800	393	220	5230	1510	4150	3060
CAL YR 1975 TOTAL	13603.42			MEAN 37.3	MAX 122	MIN 0	AC-FT 26980					
WTR YR 1976 TOTAL	15906.15			MEAN 43.5	MAX 161	MIN 0	AC-FT 31550					

GUADALUPE RIVER BASIN

319

08181000 Leon Creek tributary at Farm Road 1604, San Antonio, Tex.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°35'14", long 98°37'40", Bexar County, 97 ft (30 m) upstream from culvert on Farm Road 1604 at San Antonio and 1.5 miles (2.4 km) west of bridge on Leon Creek.

DRAINAGE AREA.--5.57 mi² (14.43 km²).

PERIOD OF RECORD.--Discharge (storm hydrographs): July 1968 to current year.

Periodic water-quality data (revised): Chemical, biochemical, and pesticide analyses: May 1970 to current year. Sediment analyses: May 1972 to June 1973. Water temperatures: May 1970 to current year. Bacteria analyses: April to September 1976.

GAGE.--Digital recorders (water stage and rainfall). Gage not referenced to mean sea level.

PEAK DISCHARGE.--Water year 1975: Maximum discharge, 10 ft³/s estimated (stage unknown).

Water year 1976: Maximum discharge, 137 ft³/s (3.88 m³/s) Apr. 18 (gage height, 3.25 ft or 0.991 m).

Period of record: Maximum discharge, 1,790 ft³/s (50.7 m³/s) July 16, 1973 (gage height, 10.91 ft or 3.325 m).

REMARKS.--Additional storm rainfall-runoff data for this site can be obtained from the report "Hydrologic Data for Urban Studies in the San Antonio, Texas Metropolitan Area, 1976."

PEAK DISCHARGE ABOVE BASE (200 FT³/S)
OR FOR WATER-QUALITY ANALYSIS

DATE	TIME	G.H.T.	DISCHARGE
5-7	0705	3.16	117

DISCHARGE AND WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPH-CLIC CONDUCTANCE (MICROMHOS)	PH	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	CHEMICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)
APR 14...	1000	2.0	240	8.0	14.0	90	15	13.2	126	41
MAY 17...	0850	2.0	170	6.2	17.5	140	40	9.7	101	46
" 7...	1235	1.0	220	7.1	24.5	150	60	8.4	100	43
DATE	TIME	5-DAY PER	10-DAY PER	10-DAY PER	10-DAY PER	10-DAY PER	10-DAY PER	10-DAY PER	10-DAY PER	10-DAY PER
APR 18...	8.2	3600	1400	4300	120	27	45	1.9	2.4	.1
MAY 17...	3.0	3700	2300	11000	87	7	33	1.2	2.3	.1
" 7...	3.5	2100	800	4700	110	9	42	1.5	2.4	.1
DATE	TIME	DISSOLVED PHOSPHORUS (MG/L)	DISSOLVED SILICA (MG/L)	DISSOLVED SULFATE (MG/L)	DISSOLVED CHLORIDE (MG/L)	DISSOLVED FLUORIDE (MG/L)	DISSOLVED SILICA (MG/L)	DISSOLVED SULFATE (MG/L)	DISSOLVED CHLORIDE (MG/L)	DISSOLVED FLUORIDE (MG/L)
APR 14...	3.1	114	0	14	8.1	.3	7.6	134	24	
MAY 7...	2.4	98	0	5.7	2.7	.2	4.2	104	152	
" 7...	2.8	125	0	11	3.2	.3	11	136	56	
DATE	TIME	VOLATILE NON-FILTRABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	OIL AND GREASE (MG/L)
APR 18...	7	.79	.01	.04	.88	.03	.21	.1	0	
MAY 17...	18	.30	.01	.01	1.1	.07	1.5	.0	0	
" 7...	8	.31	.01	.02	.68	.05	11	.0	0	

GUADALUPE RIVER BASIN

08181000 Leon Creek tributary at Farm Road 1604, San Antonio, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		DIS- SOLVED ALUM- INUM (AL) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)				
DATE	TIME											
APR. 18...	1000	20	1	80	0	0	0	0				
MAY 07...	0850	40	0	20	0	0	0	2				
07...	1235	50	0	40	0	0	0	2				
DATE	TIME	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)			
APR. 18...	20	0	0	0	.2	0	50	0				
MAY 07...	350	0	0	10	.2	0	40	10				
07...	40	0	0	40	.2	0	50	0				
DATE	TIME	TOTAL PCB (UG/L)	POLY- CHLO- RINATED NAPH- THA- LENES (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLOR- DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)
APR. 18...	1000	.0	.00	.00	.0	.00	.00	.00	.00	.00	.00	.00
MAY 07...	0850	.0	.00	.00	.0	.00	.00	.00	.00	.00	.00	.00
07...	1235	.0	.00	.00	.0	.00	.00	.00	.00	.00	.00	.00
DATE	TIME	TOTAL HEPTA- CHLOR FOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
APR. 18...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00
MAY 07...	.00	.00	.00	--	.00	.00	.00	0	.00	.00	.00	.00
07...	.00	.00	.00	--	.00	.00	.00	0	.00	.00	.00	.00

08181400 Helotes Creek at Helotes, Tex.

LOCATION.--Lat 29°34'42", long 98°41'29", Bexar County, 42 ft (13 m) left of and 44 ft (13 m) downstream from centerline of bridge on State Highway 16, 0.1 mile (0.2 km) northwest of Helotes, and 8.6 miles (13.8 km) upstream from mouth.

DRAINAGE AREA.--15.0 mi² (38.8 km²).

PERIOD OF RECORD.--Discharge: June 1968 to current year.

Water quality: Chemical, biochemical, and pesticide analyses: October 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,014.82 ft (309.317 m) above mean sea level.

AVERAGE DISCHARGE.--8 years, 4.29 ft³/s (0.121 m³/s), 3.88 in/yr (99 mm/yr), 3,110 acre-ft/yr (3.83 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 2,090 ft³/s (59.2 m³/s) Apr. 18 (gage height, 5.51 ft or 1.679 m); no flow at times.

Period of record: Maximum discharge, 7,680 ft³/s (217 m³/s) July 16, 1973 (gage height, 10.8 ft or 3.29 m, from floodmarks), from rating curve extended above 5,000 ft³/s (142 m³/s); no flow most of time.

Maximum stage since 1923, 13.7 ft (4.18 m) in 1927, from information by local resident.

REMARKS.--Discharge records good. An undetermined amount of flow is diverted for domestic use above the station, and some flow enters the Edwards and associated limestones through the Balcones Fault Zone in the vicinity of the gage. Recording rain gage located at station, with two additional recording rain gages located in watershed.

REVISIONS (WATER YEARS).--WRD Texas 1973: 1972(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0		0				0	4.5	4.2	0	0	0
2	0		0				0	7.9	3.8	0	0	.03
3	0		0				0	6.4	2.6	0	0	0
4	0		0				.44	5.1	1.5	0	0	0
5	0		0				.29	11	1.2	0	0	0
6	0		0				0	6.4	.87	0	0	0
7	0		0				0	162	.60	0	0	0
8	0		0				0	6.4	.11	0	0	0
9	0		0				0	43	0	.28	0	0
10	0		0				0	32	0	.17	0	0
11	0		0				0	24	0	0	0	0
12	0		0				0	19	0	0	0	0
13	0		0				0	26	0	0	0	0
14	0		0				0	22	0	.09	0	0
15	0		0				.20	19	0	.55	0	0
16	0		0				.01	15	0	.22	0	0
17	0		0				.53	13	0	0	0	0
18	0		0				332	10	0	0	0	0
19	0		0				50	9.2	0	0	0	.33
20	0		0				32	13	0	0	0	.06
21	0		0				19	10	0	0	0	0
22	0		0				13	9.0	0	0	0	0
23	0		0				10	7.0	0	0	0	0
24	0		.16				9.1	6.6	0	0	0	0
25	.44		0				7.1	6.2	.03	0	0	0
26	0		0				5.1	19	.11	0	0	.03
27	0		0				5.0	9.5	0	0	0	0
28	0		0				4.4	7.0	0	0	0	.18
29	0		0				17	5.8	0	0	0	6.8
30	0		0				11	5.0	0	0	.08	.87
31	0		0				---	4.8	---	0	0	---
TOTAL	.44	0	.16	0	0	0	516.17	609.4	15.02	1.31	.08	26.12
MEAN	.014	0	.005	0	0	0	17.2	19.7	.50	.042	.003	.87
MAX	.44	0	.16	0	0	0	332	162	4.2	.55	.08	.18
MIN	0	0	0	0	0	0	0	4.8	0	0	0	0
CFSM	0	0	0	0	0	0	1.15	1.31	.03	.002	0	.06
IN.	.001	0	.0004	0	0	0	1.28	1.51	.04	.003	.0002	.06
AC-FT	.9	0	.3	0	0	0	1020	1210	30	2.6	.2	52
(††)	2.48	.05	1.51	.38	.74	1.25	10.82	6.38	1.65	4.14	1.32	5.37
CAL YR 1975 TOTAL	354.79											
WTR YR 1976 TOTAL	1168.70											
MEAN	.97											
MAX	39											
MIN	0											
CFSM	.06											
IN	.88											
AC-FT	704											
††	26.01											
AC-FT	2320											
††	36.09											

PEAK DISCHARGE ABOVE BASE (140 FT³/S)
OR FOR WATER-QUALITY ANALYSIS

DATE	TIME	G.HT.	DISCHARGE
4-18	0315	5.51	2,090
5-7	0530	3.78	808
9-28	0245	2.48	171

†† Weighted-mean rainfall, in inches, based on three rain gages.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

[illegible]

08181400 Helotes Creek at Helotes, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		DIS-SOLVED ALUMINUM (AL) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	DIS-SOLVED CHROMIUM (CR) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)					
DATE	TIME												
APR. 18...	0925	30	0	50	0	9	0	0					
18...	1135	50	1	80	0	0	0	13					
18...	1510	20	0	70	0	8	0	0					
MAY 07...	1045	10	0	8	0	0	0	4					
		DIS-SOLVED IRON (FF) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MANGANESE (MN) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED STRONTIUM (SR) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)				
DATE	TIME												
APR. 18...	60	0	0	0	.1	0	50	20					
18...	110	9	0	0	--	0	80	60					
18...	50	0	0	0	.1	0	60	20					
MAY 07...	10	0	0	0	.0	0	80	0					
		POLY-CHLORINATED NAPH-THALENES (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLORDANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI-AZINON (UG/L)	TOTAL DI-ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)		
DATE	TIME	TOTAL PCB (UG/L)											
APR. 18...	1135	.0	.00	.00	.0	.00	.00	.00	.00	.00	.00		
MAY 07...	1045	.0	.00	.00	.0	.00	.00	.00	.00	.00	.00		
DATE	TIME	TOTAL HEPTACHLOR (UG/L)	TOTAL HEPTACHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALATHION (UG/L)	TOTAL METHYL PARATHION (UG/L)	TOTAL METHYL THIOPHOSPHATE (UG/L)	TOTAL PARA-THION (UG/L)	TOTAL TOXAPHENE (UG/L)	TOTAL TRI-THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
APR. 18...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00	.00
MAY 07...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00	.00

GUADALUPE RIVER BASIN

08181450 Leon Creek tributary at Kelly Air Force Base, Tex.

LOCATION.--Lat 29°23'12", long 98°36'00", Bexar County, on left bank 128 ft (39 m) downstream from centerline of bridge on Billy Mitchell Road at Kelly Air Force Base, 0.15 mile (0.24 km) upstream from mouth, and 2.0 miles (3.2 km) southeast of intersection of U.S. Highway 90 West and Loop 13.

DRAINAGE AREA.--1.19 mi² (3.08 km²).

PERIOD OF RECORD.--Discharge: March 1969 to current year.

Water quality: Chemical, biochemical, and pesticide analyses: October 1969 to current year. Sediment analyses: October 1972 to September 1973.

GAGE.--Water-stage recorder and sharp-crested weir. Datum of gage is 657.57 ft (220.427 m) above mean sea level.

AVERAGE DISCHARGE.--7 years, 0.49 ft³/s (0.0139 m³/s), 5.59 in/yr (142 mm/yr), 355 acre-ft/yr (438,000 m³/yr).

EXTREMES.--Current year: Maximum discharge, 326 ft³/s (9.23 m³/s) Sept. 19 (gage height, 3.37 ft or 1.027 m); no flow at times.

Period of record: Maximum discharge, 555 ft³/s (15.7 m³/s) May 14, 1970 (gage height, 4.44 ft or 1.353 m), from rating curve extended above 100 ft³/s (2.83 m³/s) on basis of formula, $Q = CLH^{2/3}$; no flow at times each year.

No historical flood information is available.

REMARKS.--Discharge records fair. Recording rain gage located at station with one additional rain gage located in watershed.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0		0	0		0	0	0	0	0	0	0
2	0		0	0		0	0	0	0	0	0	0
3	0		0	0		0	0	0	0	0	0	0
4	0		0	0		0	7.7	0	0	0	0	0
5	0		0	0		0	1.6	.79	0	0	0	0
6	0		0	0		1.1	0	0	0	0	0	0
7	0		0	0		0	0	26	0	0	0	0
8	0		0	0		0	0	.12	0	.19	0	0
9	0		0	0		0	0	.02	0	3.5	0	0
10	0		0	0		0	0	0	0	4.3	0	0
11	0		0	0		0	0	0	0	.27	0	0
12	0		0	0		0	0	1.2	0	0	0	0
13	0		0	0		0	0	18	0	.01	0	0
14	0		0	0		0	0	.01	0	2.0	0	0
15	0		0	0		0	1.9	0	0	1.5	0	0
16	0		0	0		0	5.2	0	6.3	.19	0	0
17	0		0	0		0	0	0	0	0	0	0
18	0		0	0		0	12	0	0	0	0	0
19	0		0	0		0	0	0	0	0	0	21
20	0		0	.56		0	4.1	11	0	0	0	2.5
21	0		0	0		0	0	0	0	0	0	0
22	0		0	0		0	0	0	0	0	0	0
23	0		0	0		.09	0	0	0	0	0	0
24	0		3.8	0		.45	1.9	0	0	0	0	0
25	13		0	0		0	.46	0	0	0	0	0
26	.66		0	0		0	0	3.9	0	0	0	0
27	0		0	0		0	0	0	0	0	0	0
28	0		0	0		0	0	0	0	0	0	17
29	0		0	0		0	3.0	0	0	0	3.1	.01
30	0		0	0	---	0	0	0	0	0	0	0
31	0	---	0	0	---	0	---	0	---	0	0	---
TOTAL	13.66	0	3.8	.56	0	1.64	37.86	61.04	6.3	11.96	3.1	40.51
MEAN	.44	0	.12	.018	0	.053	1.26	1.97	.21	.39	.10	1.35
MAX	13	0	3.8	.56	0	1.1	12	26	6.3	4.3	3.1	21
MIN	0	0	0	0	0	0	0	0	0	0	0	0
CFSM	.37	0	.10	.02	0	.04	1.06	1.66	.18	.33	.08	1.13
IN.	.43	0	.12	.02	0	.05	1.18	1.91	.29	.37	.10	1.27
AC-FT	27	0	7.5	1.1	0	3.3	75	121	12	24	6.1	80
(††)	2.42	.01	1.41	.65	0	1.60	5.27	7.57	1.36	3.12	1.55	5.47

CAL YR 1975 TOTAL 103.99 MEAN .28 MAX 13 MIN 0 CFSM .24 IN 3.25 AC-FT 206 †† 21.98
WTR YR 1976 TOTAL 180.43 MEAN .49 MAX 26 MIN 0 CFSM .41 IN 5.64 AC-FT 358 †† 30.43

PEAK DISCHARGE BASE (90 FT³/S), OR FOR WATER-QUALITY ANALYSIS

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
4-15	2345	2.00	70	6-16	0315	2.14	92
5-7	0715	2.59	171	9-19	2030	3.37	326
5-12	2400	2.66	184	9-28	0400	2.67	186
5-20	1045	2.35	128				

†† Weighted-mean rainfall, in inches, based on two rain gages.

08181450 Leon Creek tributary at Kelly Air Force Base, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	IMMEDIATE COLIFORM (COL. PER 100 ML)	FECAL COLIFORM (COL. PER 100 ML)	
APR. 15...	2330	28	84	8.4	17.0	35	400	9.1	94	9.0	14000	2900	
16...	0120	70	100	8.1	16.0	50	190	8.5	85	4.7	--	--	
MAY 20...	1143	85	58	8.5	20.5	55	170	8.6	95	8.0	22000	2200	
DATE	TIME	STREPTOCOCCI (COLONIES PER 100 ML)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISSOLVED PHOSPHATE (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)
APR. 15...	16000	30	0	11	.6	3.1	.2	2.3	40	2	6.1	3.7	
16...	--	44	0	17	.3	2.4	.2	2.3	54	0	5.1	2.5	
MAY 20...	6000	30	0	11	.5	2.2	.2	1.4	39	0	1.6	1.0	
DATE	TIME	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SiO2) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NON-FILTERABLE RESIDUE (MG/L)	VOL. NON-FILTERABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)
APR. 15...	.1	2.5	51	1010	228	.61	.01	.43	1.3	.43	9.0	.1	
16...	.2	3.1	60	270	74	.55	.01	.20	.65	.25	12	.1	
MAY 20...	.1	2.6	40	328	44	.24	.02	.03	.52	.17	3.2	.0	
DATE	TIME	DISSOLVED ALUMINUM (AL) (UG/L)	DISSOLVED ARSENIC (AS) (UG/L)	DISSOLVED BORON (B) (UG/L)	DISSOLVED CADMIUM (CD) (UG/L)	DISSOLVED CHROMIUM (CR) (UG/L)	DISSOLVED COBALT (CO) (UG/L)	DISSOLVED COPPER (CU) (UG/L)					
APR. 15...	2330	20	1	90	0	0	0	3					
16...	0120	20	1	70	0	10	0	4					
MAY 20...	1143	70	1	50	0	0	0	4					
DATE	TIME	DISSOLVED IRON (FE) (UG/L)	DISSOLVED LEAD (PB) (UG/L)	DISSOLVED LITHIUM (LI) (UG/L)	DISSOLVED MANGANESE (MN) (UG/L)	DISSOLVED MERCURY (HG) (UG/L)	DISSOLVED NICKEL (NI) (UG/L)	DISSOLVED STRONTIUM (SR) (UG/L)	DISSOLVED ZINC (ZN) (UG/L)				
APR. 15...	10	0	0	0	.2	0	50	0					
16...	40	1	0	10	.1	0	40	0					
MAY 20...	60	0	0	10	.3	0	50	0					
DATE	TIME	TOTAL PCB (UG/L)	POLYCHLORINATED NAPHTHALENES (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLORDANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DIAZINON (UG/L)	TOTAL DIELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	
APR. 15...	2330	4.7	.00	.00	--	--	--	--	.07	--	--	.00	
MAY 20...	1143	.9	.00	.00	.0	.03	.01	.09	.02	.01	.00	.00	
DATE	TIME	TOTAL HEPTACHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALATHION (UG/L)	TOTAL METHYL PARATHION (UG/L)	TOTAL METHYL TRITHION (UG/L)	TOTAL PARATHION (UG/L)	TOTAL TOXAPHENE (UG/L)	TOTAL TRIETHION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)	
APR. 15...	.00	--	.00	.00	.00	.00	.00	0	.00	.00	.00	.00	
MAY 20...	.00	.00	.01	--	.00	.00	.00	0	.00	.00	.00	.00	

GUADALUPE RIVER BASIN

08181500 Medina River at San Antonio, Tex.

LOCATION.--Lat 29°15'14", long 98°28'20", Bexar County, near left bank on downstream side of pier of upstream bridge of two bridges on U.S. Highway 281 in San Antonio and 6.8 miles (10.9 km) upstream from mouth.

DRAINAGE AREA.--1,317 mi² (3,411 km²), 634 mi² (1,642 km²) is above dam forming Medina Lake.

PERIOD OF RECORD.--Discharge: October 1929 to December 1930, July 1939 to current year. October 1929 to December 1930 records below about 50 ft³/s (1.42 m³/s) in connection with seepage investigation (published as "at Losoya"). Published as "near San Antonio" July 1939 to September 1970.

Water quality: Chemical, biochemical, and pesticide analyses: October 1970 to current year.

GAGE.--Water-stage recorder. Datum of gage is 439.0 ft (133.81 m) above mean sea level (levels by Corps of Engineers). October 1929 to December 1930 nonrecording gage at Losoya 1.5 miles (2.4 km) downstream at different datum.

AVERAGE DISCHARGE.--37 years (1939-76), 148 ft³/s (4.191 m³/s), 107,200 acre-ft/yr (132 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 7,510 ft³/s (213 m³/s) May 8 (gage height, 23.48 ft or 7.157 m); minimum, 74 ft³/s (2.10 m³/s) Feb. 23.

Period of record: Maximum discharge, 31,900 ft³/s (903 m³/s) July 17, 1973 (gage height, 43.59 ft or 13.286 m); minimum daily, 3.3 ft³/s (0.093 m³/s) Apr. 18, Nov. 1, 1956, Jan. 24, 1957.

Maximum stage 55 ft (16.8 m) sometime prior to construction of Medina Dam in 1913, from information by State Highway Department.

REMARKS.--Discharge records good. Flow is slightly regulated by Medina Lake (station 08179500) 60 miles (97 km) upstream and diversion dam reservoir (capacity, 4,500 acre-ft or 5.55 hm³). For diversion of canal records, see Medina Canal near Riomedina (station 08180000). For statement concerning losses into the Edwards and associated limestones formation, see Medina River near Somerset (station 08180800). Several small diversions below diversion dam reservoir. Records furnished by city of San Antonio show that during the current year they released approximately 6,830 acre-ft (8.42 hm³) of sewage effluent from Mitchell Lake into river above gage during periods of high water, and 12,730 acre-ft (15.7 hm³) of sewage effluent into the river just above the Mitchell Lake discharge point from the Leon Creek plant. A considerable part of the low flow is waste water from Kelly Field Air Force Base which enters via Leon Creek.

REVISIONS (WATER YEARS).--WSP 1562: 1957. WSP 1923: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	101	102	97	103	102	95	99	293	266	124	377	145
2	98	109	96	102	106	96	99	255	249	123	368	147
3	96	112	95	100	103	96	100	230	246	118	364	172
4	95	110	103	98	103	87	273	216	228	119	342	225
5	95	110	107	99	107	80	291	218	218	149	319	302
6	94	110	101	101	105	212	161	222	196	144	305	280
7	97	105	101	102	100	231	122	1500	194	137	278	267
8	97	103	97	102	100	142	101	6150	191	140	257	247
9	94	105	94	103	101	117	98	1890	185	162	247	220
10	94	101	98	103	101	111	94	720	179	196	227	199
11	96	99	99	102	99	110	92	563	174	256	198	185
12	95	100	101	102	98	111	90	480	162	277	176	171
13	94	98	103	103	97	106	100	2200	156	466	182	165
14	95	96	102	103	95	108	101	1270	155	572	188	163
15	95	97	101	106	93	108	100	563	152	679	171	166
16	94	100	102	105	96	106	202	436	168	752	166	153
17	96	102	102	103	95	102	212	371	153	838	169	139
18	94	103	99	101	84	106	1150	344	147	934	167	136
19	91	102	98	100	76	104	5630	318	139	929	171	135
20	94	100	99	117	76	103	2170	569	134	838	163	273
21	94	93	100	112	77	101	1010	774	133	791	155	681
22	92	90	101	111	75	102	676	453	132	743	148	259
23	95	96	101	107	75	104	515	358	129	687	148	239
24	97	100	128	106	83	117	448	317	128	648	143	217
25	125	104	132	102	93	111	489	285	128	610	140	199
26	225	100	112	100	93	109	421	2090	136	542	139	188
27	129	100	108	100	96	105	320	805	135	556	137	192
28	115	98	106	102	96	101	291	376	128	520	135	375
29	110	97	105	102	93	101	301	307	127	459	162	331
30	105	100	103	102	---	101	353	261	122	413	174	398
31	103	---	102	103	---	100	---	260	---	394	150	---
TOTAL	3195	3042	3193	3202	2718	3483	16109	25094	4990	14356	6466	6969
MEAN	103	101	103	103	93.7	112	537	809	166	463	209	232
MAX	225	112	132	117	107	231	5630	6150	266	934	377	681
MIN	91	90	94	98	75	80	90	216	122	118	135	135
AC-FT	6340	6030	6330	6350	5390	6910	31950	49770	9900	28480	12830	13820

CAL YP 1975 TOTAL 144669 MEAN 396 MAX 3890 MIN 90 AC-FT 287000
WTR YR 1976 TOTAL 92817 MEAN 254 MAX 6150 MIN 75 AC-FT 184100

PEAK DISCHARGE (BASE, 1,500 FT³/S)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
4-19	1300	23.20	7,280	5-13	2000	17.03	3,040
5-8	0400	23.48	7,510	5-26	1600	16.56	2,900

08181500 Medina River at San Antonio, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICHO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)	HARD- NESS (CA, MG) (MG/L)
OCT 24...	0945	95	890	7.4	23.5	0	5	3.0	35	9.3	320
NOV 21...	1200	97	879	7.6	17.0	5	13	5.6	58	9.0	320
DEC 11...	1525	99	901	7.6	17.5	17	6	7.2	58	4.6	340
JAN 23...	1355	110	885	7.6	15.0	18	9	7.6	74	3.4	340
MAR 01...	0935	91	921	7.6	21.0	18	30	5.0	56	22	350
26...	1355	100	856	7.5	22.5	18	30	5.4	61	4.6	330
APR 30...	1230	380	678	7.8	21.0	30	130	7.7	86	2.5	290
MAY 28...	1320	338	670	7.5	24.0	35	75	7.0	82	4.0	270
JUN 25...	1345	110	847	7.8	26.5	25	25	7.2	91	1.9	350
JUL 23...	1325	675	479	7.8	26.0	22	60	6.8	85	.7	220
AUG 20...	1340	155	786	7.6	27.0	18	25	5.8	73	6.4	320
SEP 24...	1330	217	564	7.7	24.0	35	50	7.4	90	1.0	230
DATE	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)
OCT 24...	58	90	22	62	1.5	4.7	314	0	87	78	--
NOV 21...	63	93	21	58	1.4	4.2	312	0	88	76	1.1
DEC 11...	84	100	22	60	1.4	4.2	313	0	94	77	.4
JAN 23...	93	99	22	57	1.4	4.2	298	0	85	73	.4
MAR 01...	92	100	24	62	1.4	4.8	314	0	90	80	.5
26...	96	93	23	57	1.4	4.0	282	0	96	76	.5
APR 30...	81	87	18	35	.9	3.3	257	0	69	48	.4
MAY 28...	75	81	16	36	1.0	4.6	236	0	70	52	.2
JUN 25...	96	100	23	54	1.3	3.6	304	0	93	70	.4
JUL 23...	52	61	16	16	.5	2.3	203	0	53	23	.3
AUG 20...	84	92	22	46	1.1	3.8	290	0	82	60	.4
SEP 24...	51	67	14	30	.9	4.2	212	0	52	40	.3
DATE	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L)	TOTAL NON- FILT- RABLE RESIDUE (MG/L)	VOL. NON- FILT- RABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	PHENOLS (UG/L)
OCT 24...	13	512	17	4	3.3	.36	3.3	1.0	2.7	4.6	5
NOV 21...	12	507	11	1	3.4	.57	1.9	.80	1.6	3.8	0
DEC 11...	13	525	13	5	2.5	.44	.56	.84	1.2	4.1	0
JAN 23...	12	500	22	2	4.3	.46	.80	.70	1.3	4.2	10
MAR 01...	15	533	62	15	3.8	.91	1.9	1.3	2.9	4.0	6
26...	14	503	58	14	3.6	.49	1.1	1.3	1.9	5.9	0
APR 30...	14	402	178	34	3.4	.02	.06	.83	.39	13	--
MAY 28...	13	389	169	30	2.3	.01	.06	.76	.46	5.0	0
JUN 25...	15	510	52	12	3.4	.01	.01	.49	.85	14	0
JUL 23...	12	284	165	25	.86	.02	.16	.39	.15	4.8	3
AUG 20...	15	466	53	18	3.5	.33	.76	1.9	1.3	2.0	1
SEP 24...	14	326	98	21	2.6	.05	.19	.72	.48	5.3	0

GUADALUPE RIVER BASIN

08181500 Medina River at San Antonio, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		DIS-SOLVED ALUMINUM (AL) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	DIS-SOLVED CHROMIUM (CR) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)						
DATE	TIME													
MAR. 01...	0935	100	1	300	1	0	0	5						
APR. 30...	1230	20	1	160	0	0	0	2						
JUNE 25...	1345	10	1	210	0	1	0	0						
AUG. 20...	1340	30	2	240	0	8	0	3						
		DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MANGANESE (MN) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED STRONTIUM (SR) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)					
DATE	TIME													
MAR. 01...	90	0	20	20	.0	2	850	10						
APR. 30...	0	0	10	0	.1	0	790	0						
JUNE 25...	0	0	20	10	.7	0	890	20						
AUG. 20...	20	0	20	10	.1	2	1000	10						
DATE	TIME	TOTAL PCB (UG/L)	PCR IN BOTTOM MATERIAL (UG/KG)	POLY-CHLORINATED NAPHTHALENES (UG/L)	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL CHLORDANE (UG/L)	CHLORDANE IN BOTTOM MATERIAL (UG/KG)	TOTAL DDD (UG/L)	DDD IN BOTTOM MATERIAL (UG/KG)	TOTAL DDE (UG/L)	DDE IN BOTTOM MATERIAL (UG/KG)		
MAR. 01...	0935	.0	4	.00	.00	.0	.3	18	.00	.0	.00	.0		
APR. 30...	1230	.0	0	.00	.00	.0	.0	9	.00	.0	.00	.8		
JUNE 25...	1345	.0	3	.00	.00	.0	.0	0	.00	.7	.00	1.5		
AUG. 20...	1340	.0	2	.00	.00	.0	.1	9	.00	.5	.00	1.2		
DATE	TIME	TOTAL DDT (UG/L)	DDT IN BOTTOM MATERIAL (UG/KG)	TOTAL DIAZINON (UG/L)	TOTAL DIELDRIN (UG/L)	DIELDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL ETHION (UG/L)	ETHION IN BOTTOM MATERIAL (UG/KG)	TOTAL HEPTACHLOR (UG/L)	HEPTACHLOR IN BOTTOM MATERIAL (UG/KG)	TOTAL HEPTACHLOR EPOXIDE (UG/L)	HEPTACHLOR EPOXIDE IN BOTTOM MATERIAL (UG/KG)
MAR. 01...	.00	.0	.14	.00	.3	.00	.0	.00	.00	.0	.00	.0	.00	.0
APR. 30...	.00	.8	.02	.00	.3	.00	.0	.00	.00	.0	.00	.0	.00	.0
JUNE 25...	.00	1.2	.00	.00	.2	.00	.0	.00	.00	.0	.00	.0	.00	.0
AUG. 20...	.00	.5	.08	.00	.3	.00	.0	.00	.00	.0	.00	.0	.00	.0
DATE	TIME	TOTAL LINDANE (UG/L)	LINDANE IN BOTTOM MATERIAL (UG/KG)	TOTAL MALATHION (UG/L)	TOTAL METHYL PARATHION (UG/L)	TOTAL METHYL TRITHION (UG/L)	TOTAL PARATHION (UG/L)	TOTAL TOXAPHENE (UG/L)	TOXAPHENE IN BOTTOM MATERIAL (UG/KG)	TOTAL TRIETHION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)	
MAR. 01...	.02	.0	.00	.00	.00	.00	.00	0	0	.00	.00	.00	.00	
APR. 30...	.00	.0	.00	.00	.00	.00	.00	0	0	.00	.00	.00	.00	
JUNE 25...	.00	.0	.00	.00	.00	.00	.00	0	0	.00	.00	.00	.00	
AUG. 20...	.01	.0	.00	.00	.00	.00	.00	0	0	.00	.00	.00	.00	

08181800 San Antonio River near Elmendorf, Tex.

LOCATION.--Lat 29°14'15", Long 98°21'43", Bexar County, on left bank 2,000 ft (610 m) downstream from Braunig Plant Lake, 2.2 miles (3.5 km) southwest of Elmendorf, and at mile 205.5 (330.6 km).

DRAINAGE AREA.--1,743 mi² (4,514 km²).

PERIOD OF RECORD.--Discharge: September 1962 to current year.

Water quality: Chemical analyses: October 1966 to current year. Chemical, biochemical, and pesticide analyses: January 1968 to current year. Water temperatures: October 1966 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 392.50 ft (119.634 m) above mean sea level.

AVERAGE DISCHARGE.--14 years, 461 ft³/s (13.06 m³/s), 334,000 acre-ft/yr (412 hm³/yr).

EXTREMES.--Discharge: Current year: Maximum discharge, 11,300 ft³/s (320 m³/s) Mar. 5 (gage height, 31.80 ft or 9.693 m); minimum, 183 ft³/s (5.18 m³/s) Mar. 5.

Period of record: Maximum discharge, 40,000 ft³/s (1,130 m³/s) Sept. 27, 1973 (gage height, 47.60 ft or 14.508 m); minimum, 12 ft³/s (0.34 m³/s) Aug. 24-26, 1963.

Historic: Maximum stage since at least 1900, 61 ft (18.6 m) in 1946. Second highest was 53 ft (16.2 m) in 1913, from information by local residents.

Water quality: Current year: Maximum daily specific conductance, 1,010 micromhos Feb. 29; minimum daily, 351 micromhos May 8. Maximum water temperatures, 30.0°C Aug. 8; minimum, 11.0°C Jan. 9.

Period of record: Maximum daily specific conductance, 1,240 micromhos Jan. 29, 1973, Aug. 8, 1975; minimum daily, 263 micromhos Sept. 27, 1973. Maximum water temperatures, 32.0°C June 21, 1969; minimum, 5.5°C Jan. 10, 1973.

REMARKS.--Discharge records good. Flow slightly regulated by Medina Lake (station 08179500) and Olmos flood-control reservoir (combined capacity, 269,500 acre-ft or 332 hm³). Storage began in Medina Reservoir in 1913, and Olmos Dam was completed in 1926. Water is diverted above station from Medina River for irrigation in the vicinity of Devine and Lytle with some water diverted for irrigation near San Antonio. Records furnished by the city of San Antonio show that during the current year 16,990 acre-ft (20.9 hm³) of sewage effluent was discharged into the San Antonio River from the Salado Creek Plant and 83,620 acre-ft (103 hm³) from the Rilling Road Plant, about 7.5 and 15.5 miles (12.1 and 24.9 km), respectively, upstream from this station; records furnished by the San Antonio City Public Service Board show that at pump plant 1,700 ft (518 m) upstream from this station 5,270 acre-ft (6.50 hm³) was pumped into the Braunig Plant Lake and 334 acre-ft (0.412 hm³) was pumped into Calaveras Lake. During the current year, 20 acre-ft (0.148 hm³) was released from Braunig Lake. For additional information relative to sewage effluent, see Medina River at San Antonio (station 08181500).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	345	352	320	292	268	248	244	543	655	354	581	426
2	343	352	313	290	264	254	232	464	647	348	572	415
3	333	360	315	286	275	254	245	446	615	339	568	514
4	329	361	321	284	251	248	917	430	558	410	539	467
5	326	358	328	294	263	224	816	503	557	1420	504	501
6	335	367	327	296	270	636	398	523	519	691	494	483
7	346	341	320	298	259	670	311	5220	513	518	468	476
8	342	348	321	299	254	354	565	9580	516	470	437	456
9	337	342	307	302	263	283	287	3520	501	660	433	439
10	338	346	310	300	280	275	261	1200	483	966	415	416
11	334	346	312	295	263	260	253	989	473	1120	379	392
12	325	337	318	297	255	264	255	856	455	702	317	378
13	324	340	319	306	258	263	265	3260	438	702	304	385
14	334	329	317	299	252	284	268	2390	428	891	310	390
15	336	333	330	295	243	266	264	977	424	1180	300	356
16	330	332	337	295	250	270	1140	797	823	1110	300	354
17	334	342	339	284	257	252	520	725	545	1280	347	341
18	330	342	329	280	252	238	2650	698	437	1130	390	335
19	315	327	328	272	235	237	5540	654	409	1140	448	528
20	324	317	327	404	235	242	3760	1070	354	1030	394	1380
21	331	315	325	328	232	228	1390	1390	368	1010	366	1000
22	331	307	326	274	227	228	877	816	390	958	351	554
23	336	310	335	275	229	234	691	668	382	894	360	497
24	338	314	639	273	237	339	631	641	375	859	380	478
25	891	317	636	272	249	266	1010	616	381	837	338	460
26	1480	328	342	266	248	255	650	4850	400	806	344	441
27	468	332	303	262	253	254	526	1930	433	766	341	566
28	388	332	297	260	247	247	494	806	384	726	336	1600
29	375	336	295	258	243	237	961	692	384	673	562	849
30	363	335	300	268	---	230	820	614	366	627	643	618
31	361	---	297	276	---	225	---	610	---	603	497	---
TOTAL	12322	10098	10533	8980	7316	8769	27241	48478	14213	25220	13018	16495
MEAN	397	337	340	290	252	283	908	1564	474	814	420	550
MAX	1480	367	639	404	280	670	5540	9580	823	1420	643	1600
MIN	315	307	295	258	227	224	232	430	354	339	300	335
AC-FT	24440	20030	20890	17810	14510	17390	54030	96160	28190	50020	25820	32720
CAL YR 1975	TOTAL	268820	MEAN	736	MAX	5620	MIN	245	AC-FT	533200		
WTR YR 1976	TOTAL	202683	MEAN	554	MAX	9580	MIN	224	AC-FT	402000		

PEAK DISCHARGE (BASE, 3,000 FT³/S)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
4-19	2000	26.60	7,180	5-13	1800	22.47	4,680
5-7	1900	31.80	11,300	5-26	1100	27.66	7,920

GUADALUPE RIVER BASIN

08181800 San Antonio River near Elmendorf, Tex.--Continued

WATER QUALITY DATA: WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	RIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)
OCT												
23...	1645	310	497	7.6	26.0	0	6	4.8	59	8.1	300	54
NOV												
21...	1115	292	469	7.6	17.1	15	12	5.6	58	13	290	49
DEC												
11...	1450	288	493	7.5	19.5	15	6	6.8	73	4.7	320	78
JAN												
23...	1325	242	448	7.4	17.1	25	8	6.4	66	15	290	59
FEB												
27...	1525	220	976	7.6	21.5	28	10	6.6	74	26	320	92
MAR												
25...	1320	218	466	7.4	23.5	28	15	4.5	52	19	290	61
APR												
30...	1135	791	579	7.5	21.5	24	40	6.8	76	8.5	220	45
MAY												
24...	1240	716	724	7.5	24.1	45	95	6.5	76	20	260	56
JUN												
25...	1200	395	452	7.5	27.5	35	20	4.6	59	20	310	70
JUL												
23...	1245	494	567	7.6	27.1	25	55	5.0	76	3.7	240	54
AUG												
20...	1245	394	400	7.5	27.5	24	25	4.6	59	8.7	290	41
SEP												
24...	1255	451	664	7.6	25.5	30	40	6.0	75	5.1	230	36

DATE	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)
OCT											
23...	47	20	74	1.9	5.8	299	0	74	49	--	15
NOV											
21...	45	20	67	1.7	5.1	300	0	71	83	.7	15
DEC											
11...	94	19	69	1.7	5.4	290	0	80	89	.5	15
JAN											
23...	45	18	63	1.6	6.0	277	0	68	78	.5	13
FEB											
27...	94	21	76	1.8	5.9	281	0	110	99	.6	14
MAR											
25...	41	21	70	1.8	5.0	274	0	78	86	.7	15
APR											
30...	68	13	34	1.0	4.4	219	0	51	47	.4	12
MAY											
24...	74	15	44	1.2	5.8	245	0	72	63	.3	14
JUN											
25...	91	20	63	1.6	5.5	294	0	74	80	.5	16
JUL											
23...	68	16	28	.8	3.3	222	0	56	39	.4	13
AUG											
20...	44	20	56	1.4	4.8	308	0	69	74	.5	16
SEP											
24...	68	14	45	1.3	5.8	233	0	53	57	.4	15

GUADALUPE RIVER BASIN

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08181800 San Antonio River near Elmendorf, Tex.--Continued

WATER QUALITY DATA WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NON- FILT- RABLE RESIDUE (MG/L)	VOL- NON- FILT- RABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	PHENOLS (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)
OCT 23...	512	20	2	3.7	.95	2.4	1.0	2.9	4.4	2	.1
NOV 21...	445	13	3	3.4	1.0	1.5	.90	2.3	3.4	0	.2
DEC 11...	516	22	4	3.7	.67	.67	.93	2.2	5.4	0	.1
JAN 23...	468	26	0	3.7	1.1	2.0	.80	2.0	3.6	6	.1
FEB 27...	560	22	4	3.4	.97	3.2	1.1	2.4	9.4	1	.1
MAR 26...	445	35	6	3.1	.71	3.2	1.0	3.0	5.3	0	.1
APR 30...	339	296	62	1.7	.30	.96	1.1	.89	5.9	2	.0
MAY 20...	413	332	74	1.7	.27	1.7	1.0	.03	5.0	1	.0
JUN 25...	500	46	10	3.3	1.1	1.6	.60	2.0	8.6	0	.1
JUL 23...	333	133	32	1.6	.40	.36	.64	.39	4.2	3	.0
AUG 20...	478	70	16	3.1	.76	1.2	1.5	1.1	4.4	0	.1
SEP 24...	373	85	13	3.1	.54	.68	.92	.63	3.6	1	.0

DATE	TIME	DIS- SOLVED ALUM- INUM (AL) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)
FEB. 27...	1525	30	2	330	0	1	0	2
APR. 30...	1135	20	2	150	0	1	0	4
JUNE 25...	1200	10	2	250	0	2	0	3
AUG. 20...	1245	10	1	260	0	12	0	0

DATE	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)
FEB. 27...	20	0	20	30	.1	8	1000	0
APR. 30...	20	0	20	0	.0	3	790	10
JUNE 25...	0	0	20	20	.6	8	1100	10
AUG. 20...	40	2	30	10	.1	5	1100	30

GUADALUPE RIVER BASIN

08181800 San Antonio River near Elmendorf, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL PCB (UG/L)	PCB IN BOTTOM MA- TERIAL (UG/KG)	POLY- CHLO- RINATED NAPH- THA- LENES (UG/L)	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL CHLOR- DANE (UG/L)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDD (UG/L)	DDD IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDE (UG/L)	DDE IN BOTTOM MA- TERIAL (UG/KG)
FEB. 27...	1525	.0	2	.00	.00	.0	.0	18	.00	.8	.00	.3
APR. 30...	1135	.0	0	.00	.00	.0	.0	4	.00	.7	.00	.4
JUNE 25...	1200	.0	20	.00	.00	.0	.0	0	.00	5.8	.00	9.3
AUG. 20...	1245	.0	23	.00	.00	.0	.1	12	.00	2.4	.00	1.9
DATE	TOTAL DDT (UG/L)	DDT IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	DI- ELDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ETHION (UG/L)	TOTAL HEPTA- CHLOR (UG/L)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG)
FEB. 27...	.00	.6	.05	.00	.8	.00	.0	.00	.00	.0	.00	.2
APR. 30...	.00	1.5	.06	.00	.3	.00	.0	.00	.00	.0	.00	.0
JUNE 25...	.00	14	.29	.00	3.0	.00	.0	.00	.00	.0	.00	.0
AUG. 20...	.00	.0	.18	.00	.5	.00	.0	.00	.00	.0	.00	.0
DATE	TOTAL LINDANE (UG/L)	LINDANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL TOX- APHENE (UG/L)	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
FEB. 27...	.01	.0	.00	.00	.00	.00	0	0	.00	.00	.05	.00
APR. 30...	.00	.0	.03	.00	.00	.00	0	0	.00	.00	.00	.00
JUNE 25...	.00	.0	.00	.00	.00	.00	0	0	.00	.05	.02	.01
AUG. 20...	.02	.0	.00	.00	.00	.00	0	0	.00	2.0	.01	.04

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

MONTH	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA+MG) (MG/L)
OCT. 1975.....	12322	798	460	15400	75	2480	70	2320	280
NOV. 1975.....	10098	876	510	13800	85	2310	75	2060	300
DEC. 1975.....	10533	852	490	14000	82	2320	74	2090	300
JAN. 1976.....	8980	877	510	12300	85	2060	75	1820	300
FEB. 1976.....	7073	945	550	10400	94	1790	80	1530	320
MAR. 1976.....	8769	888	510	12200	86	2040	76	1810	310
APR. 1976.....	27241	578	340	24900	46	3400	53	3900	220
MAY 1976.....	48478	537	310	41100	41	5350	48	6290	210
JUNE 1976.....	14213	845	490	18700	81	3090	73	2810	300
JULY 1976.....	25220	634	370	25100	53	3630	59	3990	230
AUG. 1976.....	13018	761	440	15500	70	2450	68	2380	270
SEPT 1976.....	16495	658	380	17000	56	2510	60	2650	240
TOTAL	202440	**	**	220000	**	33400	**	33600	**
WTD.AVG.	554.63	694	400	**	61	**	62	**	250

GUADALUPE RIVER BASIN

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08181800 San Antonio River near Elmendorf, Tex.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	893	865	1006	914	918	946	937	768	822	875	682	756
2	911	885	865	871	983	927	921	729	815	892	672	751
3	913	839	868	892	859	979	978	760	813	920	688	779
4	911	839	907	903	852	970	431	762	816	929	692	756
5	93	865	907	858	907	1003	656	412	854	449	769	746
6	859	878	933	848	918	800	712	731	841	519	709	673
7	833	891	931	885	950	716	848	400	810	715	749	665
8	842	912	868	903	953	783	646	551	822	743	738	704
9	843	912	848	892	918	791	736	507	844	724	725	720
10	893	848	907	880	893	856	737	431	851	574	730	740
11	893	839	893	875	938	961	874	729	854	541	762	746
12	911	875	910	840	953	919	838	762	913	736	783	775
13	865	849	919	848	958	962	848	688	829	670	767	757
14	852	882	922	865	978	938	903	444	865	614	817	828
15	900	900	865	890	1000	901	926	853	854	579	832	799
16	912	917	849	892	938	894	435	745	888	626	820	805
17	900	852	889	900	912	954	653	779	725	632	809	811
18	930	842	900	914	950	919	460	723	825	609	816	828
19	945	875	905	878	983	927	420	401	835	552	838	779
20	893	885	907	848	987	987	474	416	817	574	800	401
21	852	891	914	928	978	946	567	529	888	585	440	587
22	899	912	864	832	987	919	600	640	857	585	854	608
23	847	909	943	844	954	894	706	766	888	567	811	682
24	926	880	700	864	915	901	709	771	829	617	805	664
25	650	852	639	892	962	873	684	770	852	612	860	730
26	456	888	870	858	970	866	647	423	881	622	873	762
27	520	899	794	860	976	919	743	625	874	640	857	730
28	715	885	846	892	1000	927	782	724	835	765	866	450
29	841	878	827	900	1010	901	790	779	825	772	735	509
30	831	912	820	903	---	873	579	901	839	809	585	638
31	850	---	875	921	---	927	---	810	---	696	786	---
MONTH	844	877	863	878	948	904	715	682	847	669	774	706

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.5	22.0	16.5	18.0	16.0	21.5	20.0	21.0	25.5	28.5	27.0	28.0
2	23.5	23.0	16.0	16.5	14.5	24.0	20.0	20.0	22.0	28.0	28.0	28.0
3	22.0	21.5	16.0	14.0	19.5	23.5	21.0	21.5	25.0	26.0	27.0	27.0
4	20.0	21.5	19.0	15.0	16.5	23.0	21.0	21.5	25.5	26.0	27.0	27.0
5	20.0	21.5	20.0	14.0	18.5	21.5	20.5	22.0	26.0	---	28.0	26.0
6	21.0	22.0	21.0	15.0	17.0	17.0	20.0	23.0	26.0	26.5	28.5	27.0
7	21.5	22.0	18.0	16.0	16.0	15.0	21.0	23.0	25.5	26.5	29.0	28.5
8	23.0	22.0	16.0	13.0	17.0	16.5	21.0	20.0	26.0	26.0	30.0	29.0
9	24.0	24.0	17.0	11.0	15.5	18.5	20.5	20.0	25.5	26.0	28.5	28.0
10	25.0	22.0	15.5	14.0	19.0	18.0	22.0	20.5	25.5	25.0	29.0	26.5
11	25.0	21.0	18.0	16.0	19.5	19.5	24.0	21.5	26.5	26.0	29.0	25.0
12	27.0	21.0	19.0	15.0	20.5	20.0	23.0	23.0	27.0	25.5	28.5	26.0
13	25.0	17.0	20.0	17.0	20.0	17.0	23.0	23.0	26.0	25.5	28.5	26.5
14	24.5	17.0	22.0	16.5	20.0	16.0	23.5	20.5	26.5	25.5	27.0	26.5
15	25.5	19.0	20.5	15.5	20.0	16.5	23.0	21.0	27.0	25.5	28.0	26.5
16	26.5	20.0	18.0	16.5	21.0	18.0	18.5	22.0	28.5	25.0	28.5	27.0
17	23.5	20.0	16.0	15.0	22.0	17.0	21.0	23.5	28.0	27.0	28.0	26.5
18	21.0	21.0	15.0	15.0	21.0	18.5	18.0	22.0	28.0	27.0	28.0	27.0
19	20.0	21.5	14.0	15.0	20.0	20.5	17.0	23.0	27.0	27.0	27.0	27.0
20	20.0	20.5	14.0	16.5	20.5	22.0	18.5	23.0	28.0	27.0	26.5	25.5
21	22.0	18.0	15.0	15.0	20.0	21.0	20.0	22.0	25.5	27.0	28.0	25.0
22	23.5	16.0	14.5	14.5	19.0	19.5	21.5	23.0	28.0	26.5	27.0	24.5
23	23.5	15.0	14.0	15.5	15.5	20.0	---	24.0	26.5	26.5	27.0	25.5
24	25.5	15.5	---	16.0	16.5	20.5	24.0	25.0	28.0	27.0	26.5	25.5
25	21.0	15.0	15.0	17.0	16.5	22.0	23.0	25.5	27.0	26.0	26.5	25.0
26	16.0	15.5	13.0	15.5	18.0	23.0	21.5	24.0	26.0	27.0	26.5	27.0
27	---	---	16.0	13.5	19.0	20.0	23.0	25.5	26.0	28.0	28.5	26.5
28	21.0	---	17.0	13.0	20.0	22.0	23.5	24.0	28.0	27.0	27.0	26.0
29	23.0	22.0	15.0	13.5	20.0	21.0	22.0	23.0	28.0	27.0	27.0	23.5
30	22.0	19.0	15.0	14.5	---	22.0	21.0	27.0	28.0	28.0	25.5	23.5
31	23.5	---	15.0	15.0	---	19.0	---	---	---	27.0	28.0	---
MONTH	23.0	20.0	16.5	15.0	18.5	20.0	21.0	22.5	26.5	26.5	27.5	26.5

GUADALUPE RIVER BASIN

08182400 Calaveras Creek subwatershed No. 6 near Elmhendorf, Tex.

LOCATION.--Lat 29°22'49", long 98°17'33", Bexar County, near center of dam on Chupaderas Creek, a tributary to Calaveras Creek, 0.5 mile (0.8 km) north of Sayers, 9.1 miles (14.6 km) north of Elmhendorf, and 9.2 miles (14.8 km) upstream from mouth.

DRAINAGE AREA.--7.01 mi² (18.16 km²).

PERIOD OF RECORD.--December 1956 to current year.

GAGE.--Water-stage recorder and concrete drop-inlet control. Datum of gage is 516.06 ft (157.295 m) above mean sea level (levels by Soil Conservation Service).

AVERAGE INFLOW.--19 years (1957-76), 1,120 acre-ft/yr (1.38 hm³/yr).

AVERAGE OUTFLOW.--19 years (1957-76), 1,076 acre-ft/yr (1.33 hm³/yr).

EXTREMES.--Current year: Maximum outflow, 36.9 ft³/s (1.05 m³/s) May 7 (gage height, 22.08 ft or 6.730 m); no outflow most of year. Maximum inflow, 610 ft³/s (17.3 m³/s), average for 5-minute interval, May 7, computed and adjusted as explained below; no inflow for many days.

Period of record: Maximum outflow, 2,900 ft³/s (82.1 m³/s) Sept. 27, 1973 (gage height, 36.14 ft or 11.015 m, from floodmark), from rating curve extended above 45 ft³/s (1.27 m³/s) on basis of flow-over-spillway measurement (includes two spillways) of 2,850 ft³/s (80.7 m³/s) plus flow through the drop inlet; no outflow for many days each year. Maximum inflow, 4,770 ft³/s (135 m³/s), average for 5-minute interval, June 8, 1975, computed from change in pool contents and adjusted for outflow and rainfall on pool surface; no inflow at times.

REMARKS.--Records good. Pool is formed by an earthfill dam that was completed Dec. 15, 1956. The outlet structure is a 36-inch (914-millimeter) square concrete drop inlet connected to a 17-inch (432-millimeter) concrete outlet pipe. The top of the drop inlet is at a gage height of 18.00 ft (5.486 m); the bottom of four 8- by 8-inch (203- by 203-millimeter) uncontrolled openings are at a gage height of 14.80 ft (4.511 m); the right spillway is at a gage height of 34.3 ft (10.45 m); the left spillway is at a gage height of 34.5 ft (10.52 m). A controlled 8-inch (203-millimeter) sluice gate is located in the upstream face of the drop-inlet structure at a gage height of 8.52 ft (2.597 m). Pool capacity, 1,640 acre-ft (2.02 hm³) at spillway crest, 107 acre-ft (0.132 hm³) at top of the drop inlet, and 4.2 acre-ft (5.180 m³) at bottom of sluice gate. The capacity table is based on a sedimentation survey made Mar. 12, 1968. Rainfall records are collected from a recording gage located at station.

REVISIONS (WATER YEARS).--WSP 2123: 1957-65.

POOL WATER BUDGET, IN ACRE-FEET, WATER YEAR OCTOBER 1975 to SEPTEMBER 1976

	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
Inflow 1/	6.9	0.6	0.8	0.5	0	5.6	74.8	442.8	1.4	61.8	1.1	60.6
Outflow	0	0	0	0	0	0	38.4	432.4	2.1	42.3	0	27.6
(+)	+7	-5.2	-2.0	-2.8	-2.4	+2.7	+34.6	+3.0	-14.5	+5.8	-12.7	+21.9
(++)	2.90	.10	.95	.50	.43	2.00	5.34	6.66	.15	3.41	1.90	3.75
CAL YR 1975: Inflow	1,666											
WTR YR 1976: Inflow	657											
			Outflow	1,610		+ -0.4		++ 21.12				
			Outflow	543		+ +29.0		++ 28.09				

PEAK INFLOW (BASE, 100 FT³/S)

DATE	TIME	DISCHARGE	DATE	TIME	DISCHARGE
4-18	0930	*120	5-26	0535	*320
5-7	1105	*610	7-4	2030	*210
5-13	0230	*240			

1/ Inflow adjusted for rainfall on pool and pool losses.

+ Change in contents, in acre-feet.

++ Rainfall, in inches.

* Average for 5-minute interval.

GUADALUPE RIVER BASIN

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08183500 San Antonio River near Falls City, Tex.

LOCATION.--Lat 28°57'05", long 98°03'50", Karnes County, on left bank 23 ft (7 m) downstream from bridge on Farm Road 791, 0.9 mile (1.4 km) upstream from Scared Dog Creek, 3.6 miles (5.8 km) southwest of Falls City, and at mile 150.5 (242.2 km).

DRAINAGE AREA.--2,113 mi² (5,473 km²).

PERIOD OF RECORD.--Discharge: April 1925 to current year.

Water quality: Chemical and biochemical analyses: January 1968 to current year. Sediment analyses: January 1966 to current year.

GAGE.--Water-stage recorder. Datum of gage is 285.49 ft (87.017 m) above mean sea level.

AVERAGE DISCHARGE.--51 years, 364 ft³/s (10.31 m³/s), 263,700 acre-ft/yr (325 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 7,240 ft³/s (205 m³/s) May 10 (gage height, 11.78 ft or 3.591 m); minimum, 232 ft³/s (6.57 m³/s) Mar. 7.

Period of record: Maximum discharge, 47,400 ft³/s (1,340 m³/s) Sept. 29, 1946 (gage height, 33.80 ft or 10.302 m, from floodmark); minimum, 15 ft³/s (0.42 m³/s) June 27, 28, 1956.

Maximum stage since at least 1875, that of Sept. 29, 1946. Flood in October 1913 reached a stage of 28.4 ft (8.66 m), from floodmark, from information by local residents.

REMARKS.--Discharge records good. Diversion and regulation above station, see REMARKS for Salado Creek (upper station) at San Antonio (station 08178700), Medina River at San Antonio (station 08181500), and San Antonio River near Elmerdorf (station 08181800). Flow slightly regulated by Calaveras Lake on Calaveras Creek which enters San Antonio River downstream from San Antonio River near Elmerdorf. Records furnished by San Antonio City Public Service Board show that during the current year there was no water released into Calaveras Creek from Calaveras Lake. At end of year, flow from 45.7 mi² (118 km²) above this station was partly controlled by seven floodwater-retarding structures with a total capacity of 15,970 acre-ft (19.7 hm³) below the flood-spillway crests.

REVISIONS (WATER YEARS).--WSP 1732: 1947(M). WSP 1923: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	310	353	314	341	312	273	258	1110	716	419	679	549
2	312	346	309	338	316	262	260	778	736	406	657	525
3	299	338	290	321	305	270	271	622	746	401	636	462
4	295	339	287	322	297	279	274	575	701	396	630	504
5	297	347	291	318	313	279	569	557	673	392	614	551
6	285	347	301	315	280	259	1180	643	645	1140	579	529
7	274	356	314	330	299	303	662	790	616	1050	559	539
8	290	336	305	336	305	273	447	1570	585	609	541	527
9	299	324	296	332	297	533	536	4930	590	554	509	509
10	294	323	295	330	293	379	467	6640	581	613	486	495
11	299	316	280	337	310	311	334	3000	562	910	482	470
12	306	312	288	332	317	296	300	1260	541	1240	448	449
13	294	312	293	325	296	286	287	1900	528	928	408	427
14	275	312	304	333	290	293	296	2050	508	750	333	408
15	284	316	306	344	300	310	310	2960	489	915	338	440
16	292	305	300	333	290	302	313	1720	480	1190	335	406
17	292	311	321	331	280	292	942	1040	687	1190	322	398
18	286	311	326	332	289	290	1130	904	815	1360	340	381
19	297	327	326	318	295	278	1420	842	528	1250	424	380
20	285	319	317	309	281	266	2750	801	486	1250	463	443
21	271	300	320	343	265	274	3650	916	438	1160	487	1170
22	287	284	316	462	262	270	2980	1620	404	1130	427	1120
23	294	282	316	348	257	251	1350	1090	430	1080	402	815
24	294	275	329	315	245	257	949	450	440	1020	392	556
25	318	279	415	319	247	310	852	780	432	971	417	526
26	397	283	922	312	260	382	1060	1260	425	950	402	527
27	1670	290	515	306	275	296	904	2560	442	913	381	643
28	907	309	381	300	273	297	690	3510	468	880	383	895
29	438	311	349	296	283	287	658	1550	457	831	380	1290
30	393	313	332	297	---	277	808	884	433	786	445	1380
31	372	---	337	294	---	259	---	770	---	708	792	---
TOTAL	11501	9476	10595	10171	8332	9894	26907	50482	16582	27392	14691	18314
MEAN	371	316	342	328	287	319	897	1628	553	884	474	610
MAX	1670	356	922	462	317	973	3650	6640	815	1360	792	1380
MIN	271	275	280	294	245	251	258	557	404	392	322	380
AC-FT	22810	14800	21020	20170	16530	19620	53370	100100	32890	54330	29140	36330
CAL YR 1975	TOTAL	300472	MEAN 823	MAX 7350	MIN 271	AC-FT 596000						
WTR YR 1976	TOTAL	214337	MEAN 586	MAX 6640	MIN 245	AC-FT 425100						

PEAK DISCHARGE (BASE, 1,800 FT³/S)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
10-27	1500	3.85	1,900	5-15	1200	5.50	3,100
4-21	2000	6.62	3,850	5-28	1000	6.43	3,730
5-10	0600	11.78	7,240				

GUADALUPE RIVER BASIN

08183500 San Antonio River near Falls City, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATU- RATION	RIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)	HARD- NESS (CA+MG) (MG/L)
OCT									
23...	1500	297	970	7.6	23.5	4.7	55	3.4	340
NOV									
21...	1000	297	864	7.6	18.0	5.6	59	2.2	310
DEC									
11...	1350	272	966	7.6	17.5	7.7	80	2.5	320
JAN									
23...	1230	340	827	7.5	15.0	6.2	61	2.8	300
FEB									
24...	1345	260	1050	7.6	17.5	7.4	77	3.4	350
MAR									
26...	1225	386	873	7.4	24.0	3.4	40	7.3	310
APR									
30...	1020	593	762	7.4	22.5	4.0	45	3.1	270
MAY									
24...	1110	3730	357	7.3	24.0	4.9	58	6.3	120
JUN									
25...	1035	435	925	7.6	28.0	4.5	58	3.7	330
JUL									
23...	1115	1080	552	7.5	27.0	5.4	68	.8	230
AUG									
20...	1100	457	827	7.6	27.5	5.0	64	1.2	300
SEP									
24...	1125	554	466	7.4	24.5	5.0	68	2.7	170

DATE	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NESI- UM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)
OCT									
23...	97	97	23	75	1.8	5.6	292	0	97
NOV									
21...	75	90	21	68	1.7	2.7	288	0	88
DEC									
11...	75	94	21	79	1.9	5.3	300	0	98
JAN									
23...	70	85	20	58	1.5	4.9	274	0	71
FEB									
26...	100	100	24	90	2.1	5.2	302	0	120
MAR									
26...	92	80	22	68	1.7	5.8	260	0	88
APR									
30...	61	82	16	53	1.4	5.8	256	0	78
MAY									
28...	28	39	6.5	19	.7	5.8	117	0	35
JUN									
25...	92	95	22	66	1.6	6.0	287	0	96
JUL									
23...	54	66	16	26	.7	3.4	215	0	56
AUG									
20...	75	86	21	58	1.5	4.8	276	0	81
SEP									
24...	38	53	9.9	29	1.0	5.5	165	0	45

DATE	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SIO2) (MG/L)	DIS- SOLVED (SUM OF CONSTITU- ENTS) (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)
OCT									
23...	99	--	16	557	5.7	.52	.36	.74	2.2
NOV									
21...	85	.6	15	512	5.3	.25	.09	.67	2.2
DEC									
11...	100	.5	16	562	3.4	.10	.17	.25	2.0
JAN									
23...	72	.5	13	459	4.8	.21	.26	1.0	1.8
FEB									
26...	120	.5	16	625	6.3	.19	.13	.61	1.4
MAR									
26...	85	.6	16	500	6.8	.33	.90	.90	2.8
APR									
30...	70	.6	15	447	3.6	.50	.07	1.0	1.9
MAY									
28...	26	.1	9.1	198	1.1	.06	.18	1.7	.91
JUN									
25...	86	.5	16	529	7.1	.27	.09	.78	1.9
JUL									
23...	36	.4	13	323	2.2	.13	.01	.60	.99
AUG									
20...	75	.7	16	479	4.9	.23	.08	.84	1.2
SEP									
24...	34	.3	13	271	2.4	.03	.04	1.6	.79

GUADALUPE RIVER BASIN

337

08183900 Cibolo Creek near Boerne, Tex.

LOCATION.--Lat 29°46'26", long 98°41'50", Kendall County, on left bank 0.6 mile (1.0 km) upstream from Southern Pacific Lines bridge, 0.9 mile (1.4 km) downstream from Menger Creek, and 2.5 miles (4.0 km) southeast of Boerne.

DRAINAGE AREA.--68.4 mi² (177.2 km²).

PERIOD OF RECORD.--March 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,339.61 ft (408.313 m) above mean sea level.

AVERAGE DISCHARGE.--14 years, 28.4 ft³/s (0.804 m³/s), 5.64 in/yr (143 mm/yr), 20,580 acre-ft/yr (25.4 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 4,920 ft³/s (139 m³/s) Apr. 18 (gage height, 7.85 ft or 2.393 m), from rating curve extended as explained below; minimum, 1.1 ft³/s (0.031 m³/s) Oct. 16.

Period of record: Maximum discharge, 36,400 ft³/s (1,030 m³/s) Sept. 27, 1964 (gage height, 19.15 ft or 5.837 m, from floodmark), from rating curve extended above 2,500 ft³/s (70.8 m³/s) on basis of slope-area measurement at 12,000 ft³/s (340 m³/s) and contracted-opening measurement of 36,400 ft³/s (1,030 m³/s); no flow at times in 1962-64, 1966-67, 1971.

Maximum stage since at least 1892, that of Sept. 27, 1964. Second highest flood reached a stage of 16.3 ft or 4.97 m (discharge, 25,600 ft³/s or 725 m³/s) in 1952, from information by local residents.

REMARKS.--Records good. No known diversion above station.

REVISIONS (WATER YEARS).--WRD Texas 1973: 1964-65, 1966(P), 1968-72(P).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	2.7	6.4	4.0	4.5	4.3	3.3	3.2	33	47	36	16	13		
2	2.7	6.5	4.0	4.5	4.3	3.3	3.1	29	44	34	15	81		
3	2.6	7.1	4.2	4.3	4.4	3.3	3.4	26	40	40	14	32		
4	2.7	7.3	4.2	4.2	4.3	3.1	9.0	24	40	47	13	19		
5	2.4	6.9	4.4	4.2	4.5	2.8	23	49	37	29	13	15		
6	2.6	6.8	4.8	4.2	4.4	3.0	19	33	30	25	13	13		
7	2.6	6.7	4.3	4.4	4.2	3.6	12	400	51	25	12	12		
8	2.6	7.3	4.2	4.0	4.5	4.3	9.6	130	45	22	11	12		
9	2.7	6.6	4.3	4.2	4.5	4.2	8.1	94	49	48	11	11		
10	2.7	6.9	4.4	4.2	4.5	3.8	7.3	82	57	83	10	11		
11	2.7	6.9	4.2	4.6	4.7	3.4	6.4	67	57	117	9.4	11		
12	2.6	6.6	4.2	4.9	4.7	3.2	5.8	63	55	52	9.4	11		
13	2.6	6.0	4.4	4.4	4.5	3.1	5.6	111	49	37	10	11		
14	2.6	6.2	4.5	4.7	4.5	3.1	5.6	61	51	37	8.9	11		
15	2.5	6.4	4.3	4.5	4.3	3.1	6.0	53	53	40	8.9	11		
16	2.6	6.2	4.4	4.4	4.2	2.9	18	47	49	37	8.3	10		
17	2.7	6.4	4.9	4.3	4.4	2.7	119	42	45	36	7.8	10		
18	2.7	6.4	4.5	4.5	4.2	2.6	1410	40	42	30	13	10		
19	2.6	6.5	4.2	4.3	4.0	2.6	191	39	40	28	12	17		
20	2.7	6.6	4.2	4.2	3.8	2.8	265	182	39	26	10	16		
21	2.7	6.3	4.1	4.4	4.2	2.5	140	73	33	25	8.7	16		
22	2.7	5.9	4.2	4.5	3.8	2.7	97	55	32	34	8.3	13		
23	3.0	5.0	3.9	4.5	3.8	2.7	79	49	29	26	8.3	11		
24	3.0	5.0	7.7	4.5	3.5	3.5	65	45	24	24	8.0	11		
25	3.0	4.9	8.5	4.9	3.3	3.7	53	44	81	23	7.8	11		
26	30	5.1	6.0	4.5	3.5	3.5	44	113	40	21	7.8	11		
27	13	4.8	5.0	4.2	3.6	3.2	40	55	24	20	7.5	12		
28	9.4	5.1	4.4	4.3	3.6	3.1	39	49	24	19	7.2	13		
29	8.2	4.4	4.4	4.5	3.5	3.2	61	47	30	19	30	11		
30	6.0	4.6	4.3	4.5	---	3.0	40	47	40	18	46	11		
31	6.7	---	4.5	4.6	---	3.0	---	47	---	14	23	---		
TOTAL	177.7	164.1	144.1	137.4	120.0	98.3	2788.6	2229	1298	1072	388.3	457		
MEAN	5.73	6.14	4.65	4.43	4.14	3.17	93.0	71.9	43.3	34.6	12.5	15.2		
MAX	39	7.3	8.5	4.9	4.7	4.3	1410	400	81	117	46	81		
MIN	2.5	4.6	3.9	4.0	3.3	2.5	3.1	24	24	14	7.2	10		
CFSM	.04	.09	.07	.06	.06	.05	1.36	1.05	.63	.51	.18	.22		
IN.	.10	.10	.08	.07	.07	.05	1.52	1.21	.71	.58	.21	.25		
AC-FT	352	365	286	273	238	195	5530	4420	2570	2130	770	906		
CAL YR 1975	TOTAL	14601.5	MEAN	51.0	MAX	1010	MIN	2.5	CFSM	.75	IN	10.12	AC-FT	36900
WTR YR 1976	TOTAL	9094.5	MEAN	24.8	MAX	1410	MIN	2.5	CFSM	.36	IN	4.95	AC-FT	18040

PEAK DISCHARGE (BASE, 450 FT³/S)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
4-18	0215	7.85	4,920	5-7	0715	4.89	1,390
4-20	0515	3.76	520	5-20	1215	3.98	647

GUADALUPE RIVER BASIN

08185000 Cibolo Creek at Selma, Tex.

LOCATION.--Lat 29°35'38", long 98°18'39", Bexar-Guadalupe County line, on right bank 0.6 mile (1.0 km) downstream from Missouri-Kansas-Texas Railroad Co. bridge and 0.9 mile (1.4 km) upstream from bridge on Interstate Highway 35 at Selma.

DRAINAGE AREA.--274 mi² (710 km²).

PERIOD OF RECORD.--March 1946 to current year. Figures for water year 1960 in WSP 1813 are in error and should be disregarded.

GAGE.--Water-stage recorder. Datum of gage is 728.34 ft (221.998 m) above mean sea level.

AVERAGE DISCHARGE.--30 years, 15.5 ft³/s (0.439 m³/s), 11,230 acre-ft/yr (13.8 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 10,200 ft³/s (289 m³/s) Apr. 18 (gage height, 11.95 ft or 3.642 m); no flow most of time.
 Period of record: Maximum discharge, 65,000 ft³/s (1,840 m³/s) July 16, 1973 (gage height, 26.2 ft or 7.99 m, from floodmark), from rating curve extended above 16,000 ft³/s (453 m³/s) on basis of field estimate of 54,000 ft³/s (1,530 m³/s) and contracted-opening measurement of 65,000 ft³/s (1,840 m³/s); no flow most of time.
 Maximum stage since at least 1869, that of July 16, 1973. A stage of 26 ft (7.9 m) occurred in 1889, and stage of flood in 1913 is unknown, from information by local residents.

REMARKS.--Records good. Small diversion above station. Considerable flow of Cibolo Creek enters the Edwards and associated limestones in the Balcones Fault Zone which crosses basin between this station and station near Boerne (station 08183900).

REVISIONS.--WSP 1923: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
 MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							0	.40	.22			
2							0	.27	.16			
3							0	.24	.15			
4							0	.22	.13			
5							0	.24	.10			
6							0	.17	.07			
7							0	423	.04			
8							0	15	.02			
9							0	2.3	.01			
10							0	1.3	0			
11							0	.84	0			
12							0	.69	0			
13							0	1.1	0			
14							0	.52	0			
15							0	.43	0			
16							0	.35	0			
17							0	.35	0			
18							1660	.35	0			
19							573	.35	0			
20							65	.34	0			
21							12	.20	0			
22							1.6	.18	0			
23							.60	.13	0			
24							.37	.09	0			
25							.27	.05	0			
26							.24	.34	0			
27							.20	3.0	0			
28							.19	.44	0			
29							19	.27	0			
30							1.0	.21	0			
31		---			---		---	.20	---			---
TOTAL	0	0	0	0	0	0	2353.47	487.23	.90	0	0	0
MEAN	0	0	0	0	0	0	78.4	15.7	.030	0	0	0
MAX	0	0	0	0	0	0	1660	423	.22	0	0	0
MIN	0	0	0	0	0	0	0	.05	0	0	0	0
AC-FT	0	0	0	0	0	0	4670	966	1.4	0	0	0
CAL YR 1975	TOTAL	3555.56	MEAN	9.74	MAX	1130	MIN	0	AC-FT	7050		
WTR YR 1976	TOTAL	2841.60	MEAN	7.76	MAX	1660	MIN	0	AC-FT	5640		

PEAK DISCHARGE (BASE, 200 FT³/S).--Apr. 18 (1700) 10,200 ft³/s (11.95 ft); May 7 (0900) 2,140 ft³/s (7.06 ft).

GUADALUPE RIVER BASIN

339

08186000 Cibola Creek near Falls City, Tex.

LOCATION.--Lat 29°00'50", long 97°55'48", Karnes County, on right bank at downstream side of pier of bridge on State Highway 123, 5.7 miles (9.2 km) northeast of Falls City, and 10.4 miles (16.7 km) upstream from mouth.

DRAINAGE AREA.--827 mi² (2,142 km²).

PERIOD OF RECORD.--Discharge: October 1930 to current year. Monthly discharge only for some periods, published in WSP 1312.

Water quality: Chemical analyses: October 1968 to current year. Chemical and biochemical analyses: October 1969 to current year.

Water temperatures: October 1968 to current year. Sediment records: October 1968 to September 1969.

GAGE.--Water-stage recorder. Datum of gage is 264.28 ft (80.553 m) above mean sea level. Nov. 4, 1930, to Aug. 4, 1940, water-stage recorder at site 1,600 ft (488 m) upstream at datum 0.56 ft (0.171 m) higher. Aug. 5 to Sept. 13, 1940, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--46 years, 120 ft³/s (3,400 m³/s), 86,940 acre-ft/yr (107 hm³/yr).

EXTREMES.--Discharge: Current year: Maximum discharge, 8,120 ft³/s (230 m³/s) May 8 (gage height, 22.00 ft or 6.706 m); minimum, 17 ft³/s (0.48 m³/s) Feb. 26.

Period of record: Maximum discharge, 33,600 ft³/s (952 m³/s) July 6, 1942 (gage height, 34.45 ft or 10.500 m); maximum gage height, 35.44 ft (10.802 m) Sept. 28, 1973; no flow July 30, 31, Aug. 4-22, 1956, Aug. 1, 1971.

Historic: Maximum stage since at least 1890, that of Sept. 28, 1973. In October 1913, a stage of 35 ft (10.7 m) occurred (discharge, about 35,000 ft³/s or 991 m³/s).

Water quality: Current year: Maximum daily specific conductance, 2,110 micromhos Aug. 21; minimum daily, 245 micromhos May 7.

Maximum water temperatures, 31.0°C Oct. 4; minimum, 10.0°C Dec. 27.

Period of record: Maximum daily specific conductance, 2,270 micromhos May 20, 21, 1971; minimum daily, 176 micromhos Sept. 28, 1973. Maximum water temperatures, 33.0°C on several days during August 1969; minimum, 4.5°C Jan. 7, 1970.

REMARKS.--Discharge records good. Diversions for irrigation above station. Much of the base flow is effluent from the Carrizo Sands in the vicinity of Sutherland Springs. At end of year, flow from 28.9 mi² (74.9 km²) above this station was partly controlled by six floodwater-retarding structures with a combined detention capacity of 7,770 acre-ft (9.58 hm³) below the flood-spillway crests.

REVISIONS (WATER YEARS).--WSP 733: 1931. WSP 1058: 1935. WSP 1562: 1931(M), 1933. WSP 1923: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	39	31	36	28	20	21	232	107	31	40	31
2	24	36	30	35	28	20	21	115	221	30	39	41
3	23	35	31	32	28	20	20	84	150	28	37	40
4	22	33	31	31	28	19	24	66	133	27	35	139
5	22	33	31	31	29	21	52	57	92	30	35	97
6	22	33	31	31	29	22	194	56	77	63	33	59
7	22	33	36	31	28	63	134	817	67	125	34	45
8	22	32	35	31	27	149	122	4690	61	107	33	37
9	22	32	35	30	27	59	139	2620	58	118	31	33
10	22	31	34	30	27	42	70	499	55	121	30	30
11	22	30	34	30	27	39	49	349	52	120	30	28
12	23	29	33	30	27	35	39	246	44	144	30	25
13	23	28	33	31	26	35	36	1080	46	136	29	25
14	23	28	33	31	25	32	34	1060	46	125	29	25
15	23	28	35	31	24	30	33	508	43	355	28	30
16	24	28	36	30	24	36	167	271	42	474	29	27
17	23	28	34	29	24	33	1040	190	42	272	31	28
18	21	30	32	29	25	31	561	155	41	199	34	31
19	21	30	30	28	24	30	1220	129	40	139	41	34
20	21	33	31	29	24	29	1660	117	38	103	38	72
21	21	32	28	29	25	28	741	198	38	85	42	170
22	21	30	27	30	24	28	272	225	37	73	40	83
23	21	28	28	29	23	27	148	125	37	65	35	62
24	23	28	29	30	21	26	110	100	37	70	33	46
25	25	28	32	32	21	24	112	85	35	59	33	39
26	37	29	48	31	18	27	92	2150	37	57	31	75
27	59	29	58	29	19	26	68	2770	37	51	30	293
28	80	30	58	29	20	24	58	761	35	48	30	432
29	69	32	49	28	20	23	174	228	33	46	29	150
30	53	32	42	28	---	23	867	148	32	43	34	125
31	43	---	39	29	---	22	---	117	---	42	29	---
TOTAL	901	927	1094	940	720	1047	8278	21148	1817	3386	1032	2352
MEAN	29.1	30.9	35.3	30.3	24.8	33.8	276	682	60.6	109	33.3	78.4
MAX	80	39	58	36	29	149	1660	4690	221	474	42	432
MIN	21	28	27	28	18	19	20	56	32	27	28	25
AC-FT	1790	1860	2170	1860	1430	2080	16420	41950	3600	6720	2050	4670

CAL YR 1975 TOTAL 48453 MEAN 133 MAX 4940 MIN 21 AC-FT 96110

WTR YR 1976 TOTAL 43642 MEAN 119 MAX 4690 MIN 18 AC-FT 86560

PEAK DISCHARGE (BASE, 3,600 FT³/S).--May 8 (2100) 8,120 ft³/s (22.00 ft); May 26 (1800) 4,470 ft³/s (17.68 ft).

GUADALUPE RIVER BASIN

08186000 Cibolo Creek near Falls City, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	RIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)	HARD- NESS (CA+MG) (MG/L)
OCT									
23...	1315	21	1440	7.9	25.0	8.0	95	1.1	420
NOV									
21...	0900	37	1390	7.8	13.5	6.4	80	1.2	430
DEC									
11...	1315	35	1350	8.0	17.5	11.6	121	1.3	420
JAN									
23...	1145	29	1520	8.0	13.0	11.5	108	1.2	470
FEB									
26...	1255	18	1540	8.1	17.5	12.0	125	8.1	470
MAR									
26...	1155	27	1360	7.8	24.5	7.4	88	1.1	440
APR									
30...	0920	1350	674	7.5	21.5	6.4	72	4.7	250
MAY									
28...	1020	733	325	7.3	23.5	6.6	77	6.5	110
JUN									
25...	0930	37	1210	7.6	26.0	6.4	80	2.4	350
JUL									
23...	1045	65	921	7.7	27.0	6.7	85	.7	300
AUG									
20...	1025	40	1160	7.7	26.0	6.2	78	1.7	340
SEP									
24...	1040	47	971	7.4	24.0	7.6	93	1.4	320

DATE	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)
OCT									
23...	180	120	28	150	3.2	7.0	290	0	290
NOV									
21...	180	130	26	140	2.9	7.0	308	0	250
DEC									
11...	170	130	23	130	2.8	6.5	306	0	240
JAN									
23...	220	140	29	160	3.2	7.0	298	0	270
FEB									
26...	250	140	30	170	3.4	7.4	276	0	290
MAR									
26...	220	130	27	140	2.9	7.5	261	0	270
APR									
30...	60	80	11	48	1.3	6.3	226	0	73
MAY									
28...	16	38	4.2	18	.7	5.8	117	0	27
JUN									
25...	170	100	25	140	3.2	6.5	223	0	230
JUL									
23...	100	97	15	80	2.0	7.0	244	0	140
AUG									
20...	130	100	21	120	2.8	7.5	249	0	210
SEP									
24...	88	99	18	80	1.9	6.4	284	0	120

GUADALUPE RIVER BASIN

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08186000 Cibolo Creek near Falls City, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SiO ₂) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)
OCT 23...	160	--	18	916	.69	.01	.05	.35	.07
NOV 21...	160	.8	17	883	1.2	.01	.02	.35	.05
DEC 11...	160	.3	16	857	.58	.01	.02	.32	.02
JAN 23...	190	.3	11	954	1.5	.01	.04	.67	.03
FEB 26...	200	.3	10	984	.01	.01	.12	1.1	.12
MAR 26...	170	.4	16	890	1.3	.01	.04	.47	.08
APR 30...	60	.4	16	406	2.1	.03	.15	2.8	1.4
MAY 28...	24	.1	13	188	.58	.02	.15	1.6	.52
JUN 25...	150	.4	10	772	.11	.01	.01	.43	.07
JUL 23...	97	.4	22	579	.87	.01	.03	.52	.19
AUG 20...	140	.4	13	735	.69	.03	.09	.72	.11
SEP 24...	96	.4	18	578	1.8	.02	.05	.73	.16

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

MONTH	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA+MG) (MG/L)
OCT. 1975.....	901	1380	870	2120	170	403	250	609	440
NOV. 1975.....	927	1410	890	2220	170	425	250	638	450
DEC. 1975.....	1094	1430	900	2660	170	509	260	772	450
JAN. 1976.....	940	1480	930	2370	180	459	270	690	460
FEB. 1976.....	700	1550	980	1850	190	356	290	548	490
MAR. 1976.....	1047	1340	850	2390	160	454	240	677	430
APR. 1976.....	8278	469	290	6560	40	890	66	1480	180
MAY 1976.....	21148	378	230	13400	27	1560	50	2860	150
JUNE 1976.....	1817	1090	690	3380	130	618	180	875	360
JULY 1976.....	3386	865	540	4970	94	862	130	1160	290
AUG. 1976.....	1032	1300	820	2280	160	433	230	636	410
SEPT 1976.....	2352	860	540	3440	94	595	130	825	290
TOTAL	43622	**	**	47600	**	7560	**	11800	**
WTD.AVG.	119.51	645	400	**	64	**	100	**	230

GUADALUPE RIVER BASIN

08186000 Cibola Creek near Falls City, Tex.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C) WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1250	1150	1510	1380	1520	1600	1550	673	1250	1300	1170	991
2	1370	1430	1450	1350	1440	1610	1470	887	1000	1060	1260	983
3	1410	1270	1440	1390	1480	1640	1440	689	760	1100	1280	1020
4	1420	1310	1450	1360	1410	1610	1550	794	856	1200	1260	805
5	1400	1320	1450	1480	1530	1610	1500	462	860	1390	1280	1000
6	1370	1330	1440	1520	1480	1580	1250	407	889	1120	1280	1040
7	1370	1330	1430	1490	1460	1570	1050	245	1080	1120	1270	1070
8	1470	1350	1430	1460	1480	1100	821	250	1130	1080	1260	908
9	1340	1360	1310	1430	1500	1240	914	338	1120	1030	1320	1180
10	1490	1390	1390	1460	1560	1350	960	422	1180	933	1290	991
11	1460	1390	1350	1430	1570	1420	1040	521	1200	800	1300	983
12	1410	1420	1390	1470	1590	1200	1200	345	1160	603	1310	1000
13	1430	1430	1390	1470	1580	1310	1140	334	1220	892	1300	1080
14	1450	1440	1490	1470	1640	1300	1180	439	1230	640	1340	1150
15	1420	1460	1470	1470	1640	1300	1180	500	1250	676	1310	1160
16	1470	1480	1460	1520	1630	1140	800	800	1250	782	1300	1130
17	1520	1470	1450	1500	1570	1250	305	794	1220	753	1300	1110
18	1470	1460	1460	1520	1560	1240	385	790	1200	730	1330	1000
19	1440	1460	1500	1500	1600	1250	370	792	1270	753	1200	979
20	1470	1450	1440	1480	1580	1250	319	456	1240	830	1160	725
21	1490	1390	1510	1560	1590	1250	305	433	1200	892	2110	966
22	1520	1460	1530	1520	1560	1290	435	410	1250	933	1230	938
23	1440	1440	1510	1520	1570	1300	460	760	1240	921	1230	1090
24	1420	1440	1510	1540	1560	1320	442	930	1240	980	1250	971
25	1410	1500	1580	1520	1570	1410	653	987	1210	1020	1370	1090
26	1360	1500	1510	1520	1540	1360	693	259	1260	942	1230	500
27	1350	1500	1410	1500	1600	1420	772	321	1270	1080	1250	256
28	1220	1480	1260	1490	1630	1460	842	325	1270	1090	1280	905
29	1290	1480	1290	1520	1600	1500	487	520	1280	1180	1180	966
30	1420	1450	1360	1530	---	1540	400	579	1320	1200	1230	983
31	1300	---	1420	1540	---	1500	---	301	---	1180	1240	---
MONTH	1410	1410	1440	1480	1550	1390	865	625	1160	977	1290	966

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30.0	23.0	21.0	---	15.5	---	22.0	21.5	25.5	26.5	25.5	26.0
2	29.5	24.5	18.0	11.5	14.0	23.0	21.5	21.5	26.5	25.5	26.0	25.5
3	30.0	23.5	---	12.0	20.0	23.0	23.0	20.5	27.0	---	27.0	28.0
4	31.0	23.0	20.0	10.5	19.5	24.0	20.5	22.5	25.5	---	---	26.5
5	---	---	18.5	13.0	18.0	23.0	21.0	23.5	---	25.5	28.0	27.0
6	30.5	24.0	---	11.5	19.5	24.5	---	23.0	28.0	26.0	28.0	---
7	29.5	23.0	23.0	---	---	23.0	21.5	21.5	25.0	25.0	---	26.5
8	30.0	25.5	18.5	12.0	20.0	---	23.0	20.0	26.5	27.0	28.0	28.0
9	29.5	26.5	18.0	11.5	22.0	23.0	23.5	23.0	26.0	26.5	27.0	27.0
10	30.5	24.0	20.0	11.5	19.5	23.5	---	23.0	25.5	25.5	28.0	27.0
11	---	25.5	21.0	10.5	---	24.5	23.5	23.5	25.5	---	28.0	26.5
12	30.5	21.5	20.0	16.5	21.0	22.0	23.5	22.0	27.0	25.0	26.5	27.0
13	---	---	19.5	20.0	20.0	---	21.5	23.0	25.5	25.5	---	26.5
14	29.5	23.0	13.5	14.5	21.0	23.5	---	21.0	---	26.5	27.0	27.0
15	30.0	23.0	14.0	20.0	---	22.0	23.5	---	27.0	25.5	26.0	26.5
16	28.0	21.0	11.5	19.5	21.0	23.0	24.5	21.5	26.5	27.0	26.5	26.5
17	29.5	---	---	---	20.0	21.5	23.0	22.5	26.0	26.5	28.0	28.0
18	29.5	23.0	19.5	18.0	21.5	---	23.0	---	27.0	---	26.5	---
19	---	19.5	---	21.0	22.0	21.0	21.5	22.5	25.5	26.5	25.5	25.5
20	29.5	---	13.5	20.0	23.5	---	20.5	23.0	---	27.0	---	26.0
21	30.5	20.0	10.5	---	24.0	24.5	23.0	22.5	25.5	26.0	28.0	24.5
22	30.0	18.5	13.5	19.5	---	23.0	23.0	---	26.5	25.5	28.0	28.0
23	28.0	18.5	11.5	12.0	23.0	---	---	23.5	27.0	28.0	26.0	28.0
24	29.0	19.5	12.0	18.0	---	23.0	23.5	23.0	24.5	---	26.5	---
25	---	15.5	11.5	16.0	21.0	22.0	23.0	22.5	26.0	26.5	28.0	26.0
26	---	18.0	13.5	15.5	22.0	20.0	23.5	24.0	25.5	27.0	28.0	28.0
27	25.5	12.0	10.0	---	19.5	24.0	23.0	22.5	27.0	26.5	---	26.5
28	23.0	13.5	10.5	20.0	20.5	---	23.5	23.5	---	26.5	26.0	26.0
29	25.0	---	11.0	19.5	21.5	21.0	21.5	---	25.5	25.0	28.0	26.5
30	24.5	19.5	12.0	---	---	23.0	23.0	25.5	27.0	27.0	26.0	25.0
31	---	---	10.5	19.0	---	21.5	---	27.0	---	26.0	25.5	---
MONTH	---	21.0	15.5	15.5	20.5	---	22.5	22.5	26.0	26.0	27.0	26.5

GUADALUPE RIVER BASIN

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08186500 Ecleto Creek near Runge, Tex.

LOCATION.--Lat 28°55'12", long 97°46'19", Karnes County, on left bank 55 ft (17 m) downstream from Farm Road 81, 215 ft (66 m) left of left end of bridge, 2.6 miles (4.2 km) upstream from Salt Branch, 4.5 miles (7.2 km) northwest of Runge, and 5.2 miles (8.4 km) upstream from mouth.

DRAINAGE AREA.--239 mi² (619 km²).

PERIOD OF RECORD.--Discharge: March 1962 to current year.

Water quality: Sediment records: February 1966 to September 1975.

GAGE.--Water-stage recorder. Datum of gage is 215.03 ft (65.541 m) above mean sea level.

AVERAGE DISCHARGE.--14 years, 34.8 ft³/s (0.986 m³/s), 1.98 in/yr (50 mm/yr), 25,210 acre-ft/yr (31.1 hm³/s).

EXTREMES.--Current year: Maximum discharge, 1,900 ft³/s (53.8 m³/s) May 13 (gage height, 12.98 ft or 3.956 m); no flow Aug. 10-16, 26-28, Sept. 6-12.

Period of record: Maximum discharge, 58,400 ft³/s (1,650 m³/s) Sept. 22, 1967 (gage height, 33.3 ft or 10.15 m, from floodmark), from rating curve extended above 7,300 ft³/s (207 m³/s) on basis of slope-area measurement of peak flow; no flow at times 1962-67, 1969-72, 1974, and 1976.

Flood information begins with the flood in June 1903 which reached a stage of 34 ft or 10.4 m (discharge, 71,000 ft³/s or 2,010 m³/s). A stage of 32 ft or 9.8 m (discharge, 39,000 ft³/s or 1,100 m³/s) occurred in September 1952, from information by local residents.

REMARKS.--Discharge records good except those below 6 ft³/s (0.170 m³/s), which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	.45	.80	.57	.50	.28	.02	19	28	1.2	.25	.01
2	.08	.47	.80	.50	.47	.29	.01	12	22	.75	.28	.87
3	.06	11	.80	.38	.33	.29	.01	6.3	23	1.0	.24	.04
4	.06	5.2	1.0	.29	.29	.27	.03	4.3	17	1.1	.19	.02
5	.06	1.6	1.6	.37	.34	.28	.32	3.1	11	3.5	.10	.01
6	.06	.84	1.4	.59	.35	.18	.24	2.6	8.4	12	.08	0
7	.06	.54	1.2	.67	.35	.18	.39	18	7.0	22	.05	0
8	.08	.28	1.2	.66	.35	.32	2.0	172	6.2	3.6	.02	0
9	.08	.23	1.4	.59	.34	.33	1.9	390	4.0	2.5	.01	0
10	.08	.21	1.3	.64	.31	.34	.67	66	4.0	2.4	0	0
11	.08	.20	1.4	.69	.37	.29	.34	27	5.3	2.3	0	0
12	.08	.32	1.5	.69	.40	.32	.24	995	4.3	1.9	0	0
13	.08	.28	1.7	.80	.35	.31	.17	1410	3.7	1.8	0	.02
14	.08	.23	1.6	.89	.35	.33	.11	847	3.4	3.7	0	.02
15	.08	.20	1.7	.80	.39	.45	.68	156	3.1	3.3	0	.03
16	.08	.23	.79	.88	.57	.92	.14	54	2.7	13	0	.33
17	.07	.27	.63	1.0	.59	1.2	.15	30	2.5	6.5	.01	.51
18	.04	.29	.47	1.2	.47	.52	1.3	19	2.3	3.2	.01	.15
19	.04	.29	.41	.86	.34	.23	128	13	2.7	1.8	.11	1.7
20	.04	.27	.42	.97	.33	.19	116	11	2.1	1.2	1.0	26
21	.05	.45	.42	.88	.34	.23	83	9.9	1.6	.87	.43	16
22	.06	.63	.48	.80	.31	.15	47	8.0	1.6	.76	.17	24
23	.07	.64	.64	.80	.27	.12	19	6.8	1.4	.69	.05	12
24	.07	.49	1.2	.90	.20	.15	7.9	5.8	1.4	.78	.02	3.4
25	.15	.46	1.0	1.0	.20	.13	4.5	5.5	1.3	1.1	.01	1.4
26	.34	.55	.84	1.0	.16	.15	2.7	106	1.5	1.0	0	1.3
27	.51	.59	.57	.86	.17	.11	2.1	1320	1.3	.72	0	45
28	1.2	.69	.76	.69	.18	.08	8.4	600	1.2	.53	0	73
29	1.3	.91	.75	.69	.22	.07	316	87	1.2	.41	.01	85
30	1.2	.87	.59	.73	---	.06	64	42	1.2	.35	.03	39
31	.75	---	.59	.64	---	.04	---	25	---	.34	.02	---
TOTAL	7.09	29.88	29.96	23.03	9.84	8.81	806.72	6471.3	176.4	96.30	3.09	329.81
MEAN	.23	.99	.97	.74	.34	.28	26.9	209	5.88	3.11	.10	11.0
MAX	1.3	11	1.7	1.2	.59	1.2	316	1410	24	22	1.0	85
MIN	.04	.20	.41	.29	.16	.04	.01	2.6	1.2	.34	0	0
CFSM	0	.004	.004	.003	.001	.001	.11	.87	.02	.01	0	.05
I ⁴	.001	.005	.005	.004	.002	.001	.13	1.01	.03	.01	.0005	.05
AC-FT	14	59	59	46	20	17	1600	12440	350	191	6.1	654
CAL YR 1975	TOTAL	16177.97	MEAN 44.3	MAX 1610	MIN 0	CFSM .19	IN 2.52	AC-FT 32040				
WTR YR 1976	TOTAL	7992.03	MEAN 21.8	MAX 1410	MIN 0	CFSM .09	IN 1.24	AC-FT 15850				

PEAK DISCHARGE (BASE, 500 FT³/S)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
4-29	1330	7.88	678	5-13	1330	12.98	1,900
5-9	0900	6.87	505	5-27	1530	12.19	1,670

GUADALUPE RIVER BASIN

08187900 Escondido Creek subwatershed No. 11 (Dry Escondido Creek) near Kenedy, Tex.

LOCATION.--Lat 28°51'39", long 97°50'39", Karnes County, near center of dam on Dry Escondido Creek, 0.5 mile (0.8 km) upstream from bridge on Farm Road 792, 3 miles (5 km) north of Kenedy, and 5.0 miles (8.0 km) upstream from Escondido Creek.

DRAINAGE AREA.--8.43 mi² (21.83 km²).

PERIOD OF RECORD.--January to August 1958 (outflow, annual maximum only; inflow, peaks above base only), September 1958 to current year.

GAGE.--Water-stage recorder with concrete drop-inlet control. Datum of gage is 285.12 ft (86.905 m) above mean sea level.

AVERAGE INFLOW.--18 years, 815 acre-ft/yr (1.005 hm³/yr).

AVERAGE OUTFLOW.--18 years, 691 acre-ft/yr (0.852 hm³/yr).

EXTREMES.--Current year: No outflow during year. Maximum inflow, 163 ft³/s (4.62 m³/s), average for 5-minute interval, Apr. 29, computed and adjusted as explained below; no inflow for many days.

Period of record: Maximum outflow, 8,030 ft³/s (227 m³/s) Sept. 21, 1967 (gage height, 36.36 ft or 11.083 m, from floodmark at gage; 36.3 ft or 11.06 m, from floodmarks at spillways), from rating curve extended above 100 ft³/s (2.83 m³/s) on basis of flow-over-spillway measurement (includes two spillways) of 7,900 ft³/s (224 m³/s) plus flow through the drop inlet; no outflow most of time each year. Maximum inflow, 18,000 ft³/s (510 m³/s), average for 5-minute interval, Sept. 21, 1967, computed from change in pool contents and adjusted for outflow and rainfall on pool surface; no inflow at times.

REMARKS.--Records good. The dam was completed Jan. 31, 1958, but the lower drain valve in the drop-inlet structure remained open until Sept. 15, 1958. The first outflow (since lower drain valve was closed) occurred Sept. 22, 1958. The pool is formed by a rolled earthfill dam about 2,600 ft (792 m) long with spillways at both the left and right end of the dam. The outlet structure is a 36-inch (914-millimeter) square concrete box drop inlet connected to a 28-inch (711-millimeter) concrete outlet pipe. Four 10-inch (254-millimeter) square portholes are set in the sides of the drop inlet, two on the upstream side and two on the downstream side. Bottom of portholes are at gage height 15.67 ft (4.776 m). The top of the drop inlet is at gage height 18.00 ft (5.486 m). The two spillways (both left and right) are at gage height 32.8 ft (10.00 m). The lower drain valve is an 8-inch-diameter (203-millimeter) cleanout gate at the bottom of the drop-inlet structure at a gage height of 9.4 ft (2.87 m). The pool capacity is 2,670 acre-ft (3.29 hm³) at the spillway crests, 236 acre-ft (0.291 hm³) at top of the drop inlet, 140 acre-ft (0.173 hm³) at the bottom of portholes, and 29.9 acre-ft (0.037 hm³) at the 8-inch (203-millimeter) controlled outlet. The dam was built by the Soil Conservation Service for flood control. The capacity table is based on a survey made Sept. 11, 1965. Rainfall records are collected from a recording rain gage at station.

REVISIONS (WATER YEARS).--WSP 1923: 1958-60.

POOL WATER BUDGET, IN ACRE-FEET, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
Inflow 1/	2.2	2.4	4.1	2.7	1.5	2.0	46.4	26.3	2.0	5.4	3.5	30.4
Outflow	0	0	0	0	0	0	0	0	0	0	0	0
(+)	-6.6	-4.7	0	-1.9	-4.9	-3.9	+47.3	+11.2	-20.2	-4.4	-10.9	+28.0
(++)	1.14	.28	1.15	.43	0	.40	7.11	3.77	.17	3.69	2.11	6.38
CAL YR 1975: Inflow	71.7											
WTR YR 1976: Inflow	128.9											
Outflow	0											

PEAK INFLOW (BASE, 100 FT³/S).--Apr. 29 (0615) 163 ft³/s.

1/ Inflow adjusted for rainfall on pool and pool losses.

+ Change in contents, in acre-feet.

++ Rainfall, in inches.

GUADALUPE RIVER BASIN

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08188500 San Antonio River at Goliad, Tex.
(National stream-quality accounting network)

LOCATION.--Lat 28°38'58", long 97°23'04", Goliad County, on right bank at upstream side of bridge on U.S. Highway 183, 1.2 miles (1.9 km) southeast of courthouse in Goliad, 11.7 miles (18.8 km) upstream from Manahua Creek, and at mile 66.5 (107.0 km).

DRAINAGE AREA.--3,921 mi² (10,155 km²).

PERIOD OF RECORD.--Discharge: June 1924 to March 1929, February 1939 to current year.

Water quality: Chemical analyses: September 1945 to September 1946, September 1958 to current year. Chemical and biochemical analyses: January 1968 to current year. Pesticide analyses: January 1968 to current year. Water temperatures: September 1958 to current year. Sediment records: October 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 91.08 ft (27.761 m) above mean sea level. Prior to Mar. 31, 1929, nonrecording gage at Texas and New Orleans Railroad Co. bridge 0.9 mile (1.4 km) upstream at same datum.

AVERAGE DISCHARGE.--41 years (1924-28, 1939-76), 623 ft³/s (17.64 m³/s), 451,400 acre-ft/yr (557 hm³/yr).

EXTREMES.--Discharge: Current year: Maximum discharge, 9,780 ft³/s (277 m³/s) Apr. 18 (gage height, 29.00 ft or 8.839 m); minimum, 263 ft³/s (7.45 m³/s) Apr. 4.

Period of record: Maximum discharge, 138,000 ft³/s (3,910 m³/s) Sept. 23, 1967 (gage height, 53.7 ft or 16.37 m, from floodmark), from rating curve extended above 26,000 ft³/s (736 m³/s) on basis of slope-area measurement of peak flow; minimum observed, 1.2 ft³/s (0.034 m³/s) June 16, 1956.

Historic: Maximum stage since 1869, that of Sept. 23, 1967. Flood of July 9, 1942, reached a stage of 44.9 ft (13.69 m); floods in October 1913 and June 15, 1935, reached about the same stage. Maximum stage since about 1800 occurred in 1869 and was several feet higher than flood of Sept. 23, 1967.

Water quality: Current year: Maximum daily specific conductance, 1,320 micromhos Feb. 28; minimum daily, 227 micromhos July 11. Maximum water temperatures, 29.0°C on several days during summer months; minimum, 1.5°C Jan. 8.

Period of record: Maximum daily specific conductance, 1,500 micromhos July 15, 17, 1969; minimum daily, 138 micromhos Oct. 27, 1960. Maximum water temperatures, 36.0°C June 5, 1969; minimum, freezing point Jan. 13, 1975.

REMARKS.--Discharge records good. Many diversions and regulations above station (see stations 08181800 and 08187500). At end of year, flow from 150 mi² (388 km²) above this station was partly controlled by 29 floodwater-retarding structures with a combined detention capacity of 47,720 acre-ft (58.8 hm³) below the flood-spillway crests.

REVISIONS.--WSP 1923: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	412	524	382	441	365	327	293	1860	1100	518	835	579
2	399	488	361	443	361	333	278	1660	989	481	789	771
3	413	489	386	443	375	330	270	1200	973	464	764	667
4	415	458	386	432	386	316	274	914	1040	445	743	756
5	396	432	371	413	375	319	450	796	967	436	727	725
6	389	419	360	413	364	324	368	741	898	444	718	713
7	389	424	360	410	371	329	791	745	838	582	699	671
8	374	424	368	401	348	327	1180	1160	806	1250	669	640
9	366	432	384	412	355	525	792	3090	771	1010	654	631
10	376	411	384	427	372	903	662	5560	744	942	635	615
11	387	390	370	428	365	633	727	6530	737	4560	606	595
12	385	390	369	422	357	463	583	6580	722	1490	585	575
13	386	378	355	431	367	380	431	5240	701	1220	575	556
14	391	375	353	427	384	356	379	4640	676	1320	540	557
15	392	374	358	410	363	345	358	5180	663	1090	497	578
16	383	372	380	416	354	348	354	4190	641	1160	433	513
17	375	374	374	432	358	354	366	2950	621	1400	467	526
18	384	371	368	421	355	356	3240	1590	609	1470	454	488
19	384	370	375	416	342	342	6570	1230	836	1400	440	483
20	377	375	390	423	348	341	2620	1440	794	1390	448	1030
21	384	384	389	406	358	325	3420	1250	628	1270	514	2780
22	380	384	341	394	346	308	4270	1050	588	1240	561	1180
23	362	364	378	430	324	306	4250	1500	524	1170	570	1270
24	372	346	2470	586	322	307	2480	1550	474	1140	512	1090
25	389	342	1430	466	318	291	1290	1140	499	1090	481	810
26	413	336	440	398	308	292	1050	985	512	1040	471	678
27	422	336	557	393	302	328	1040	1610	509	1010	491	743
28	712	342	891	387	312	394	1120	5060	493	979	477	1240
29	1370	355	661	381	325	332	1860	6060	505	947	464	1550
30	830	376	524	375	---	317	4980	4070	535	912	471	1940
31	607	---	469	370	---	309	---	1500	---	876	472	---
TOTAL	13998	11835	16044	13047	10180	11462	46746	83071	21393	34746	17762	25950
MEAN	452	395	518	421	351	370	1558	2680	713	1121	573	865
MAX	1370	524	2470	586	386	903	6570	6580	1100	4560	835	2780
MIN	362	336	353	370	302	291	270	741	474	436	433	483
AC-FT	27770	23470	31820	25880	20190	22730	92720	164000	42430	68920	35230	51470
CAL YR 1975 TOTAL	385523	MEAN	1056	MAX	8280	MIN	336	AC-FT	764700			
WTR YR 1976 TOTAL	306234	MEAN	837	MAX	6580	MIN	270	AC-FT	607400			

PEAK DISCHARGE (BASE, 3,000 FT³/S)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
12-24	1700	22.33	5,840	5-15	0300	20.53	5,360
4-18	2100	29.00	9,780	5-29	1100	22.36	6,190
4-23	0400	18.38	4,420	7-11	1200	20.57	5,380
4-30	0700	21.57	5,830	9-21	1000	15.75	3,200
5-12	0900	23.39	6,650				

GUADALUPE RIVER BASIN

08188500 San Antonio River at Goliad, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)
OCT 22...	1555	378	1120	7.9	22.5	0	45	8.0	91	2.1
NOV 20...	1415	375	1070	7.9	19.0	25	33	8.0	85	2.0
DEC 10...	1255	382	1120	7.9	16.0	14	20	9.1	91	1.0
JAN 21...	1410	405	1110	7.9	14.0	22	25	9.4	90	1.3
FEB 25...	1350	316	1210	7.9	17.0	25	40	9.0	93	1.6
MAR 24...	1350	305	1170	7.9	20.5	35	60	8.3	91	2.4
APR 28...	1450	1120	737	7.6	24.0	35	200	6.8	80	6.3
MAY 26...	1435	969	670	7.7	26.0	40	230	6.6	80	3.7
JUN 23...	1425	516	891	7.8	29.5	35	80	7.0	93	2.3
JUL 21...	1410	1260	614	7.7	28.0	90	170	6.2	79	1.7
AUG 18...	1245	454	968	7.8	28.5	27	55	6.8	88	2.0
SEP 22...	1400	1030	521	7.5	25.5	55	270	6.6	82	4.1
DATE	IMME- DIATE COLI- FORM (COL. PER 100 ML)	FECAL COLI- FORM (COL. PER 100 ML)	STREP- TOCOCCI (COL- ONIES PER 100 ML)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)
OCT 22...	700	140	440	370	120	110	24	110	2.5	6.0
NOV 20...	8000	330	720	340	89	100	23	92	2.2	6.0
DEC 10...	1400	220	760	390	130	120	23	100	2.2	5.7
JAN 21...	1300	320	380	370	120	110	24	100	2.3	5.8
FEB 25...	1100	180	230	380	130	110	26	110	2.5	5.9
MAR 24...	2500	170	460	390	140	110	27	110	2.4	6.8
APR 28...	4800	680	3200	270	79	81	15	52	1.4	6.6
MAY 26...	1700	510	1000	240	63	74	13	43	1.2	5.3
JUN 23...	5400	88	490	310	91	94	19	73	1.8	5.5
JUL 21...	2300	190	900	220	53	68	13	41	1.2	6.0
AUG 18...	7700	400	1000	340	110	100	22	76	1.8	5.0
SEP 22...	7100	2600	7600	170	40	53	9.5	40	1.3	6.8

GUADALUPE RIVER BASIN

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08188500 San Antonio River at Goliad, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	RICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SI02) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NON- FILT- RABLE RESIDUE (MG/L)	VOL. NON- FILT- RABLE RESIDUE (MG/L)
OCT 22...	314	0	120	130	--	19	746	674	97	11
NOV 20...	312	0	110	120	.7	18	702	623	66	12
DEC 10...	318	0	130	130	.5	18	708	684	49	5
JAN 21...	304	0	120	140	.4	16	724	666	70	4
FEB 25...	310	0	140	160	.6	19	770	724	92	20
MAR 24...	301	0	140	160	.6	19	762	723	137	22
APR 28...	227	0	78	70	.5	15	462	431	635	176
MAY 26...	214	0	70	62	.2	14	412	387	492	56
JUN 23...	272	0	100	110	.4	16	608	553	251	42
JUL 21...	208	0	57	58	.4	16	394	362	396	28
AUG 18...	243	0	110	110	.4	18	634	582	163	32
SEP 22...	160	0	49	52	.3	16	258	305	860	130

DATE	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	PHENOLS (UG/L)	SUS- PEN- DED SEDI- MENT (MG/L)	SUS- PEN- DED SEDI- MENT DIS- CHARGE (T/DAY)	SUS. SED. SIEVE DIAM. * FINER THAN .062 MM
OCT 22...	5.0	.05	.16	.72	3.4	3.8	0	92	94	98
NOV 20...	4.8	.04	.08	.72	2.3	4.0	0	71	72	97
DEC 10...	4.8	.03	.02	.45	2.5	4.1	0	54	56	93
JAN 21...	5.3	.02	.03	.80	1.5	12	1	67	73	95
FEB 25...	6.8	.01	.05	.46	2.2	7.4	1	78	67	97
MAR 24...	5.5	.06	.12	1.2	2.3	6.9	0	398	328	92
APR 28...	3.7	.01	.12	1.3	1.6	3.2	1	493	1490	98
MAY 26...	2.1	.01	.07	1.2	.70	9.2	0	475	1240	95
JUN 23...	1.5	.01	.06	1.0	.43	5.8	9	137	191	98
JUL 21...	3.5	.01	.02	1.8	1.1	10	2	417	1420	95
AUG 18...	2.8	.01	.01	.82	.74	4.8	0	152	186	92
SEP 22...	1.7	.02	.06	.94	.53	7.9	0	740	2060	98

GUADALUPE RIVER BASIN

08188500 San Antonio River at Goliad, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		DIS-SOLVED ALUMINUM (AL) (UG/L)	TOTAL ARSENIC (AS) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	TOTAL CADMIUM (CD) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	TOTAL CHROMIUM (CR) (UG/L)	DIS-SOLVED CHROMIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)
DATE	TIME									
MAR. 24...	1350	10	4	1	430	0	0	10	0	0
APR. 28...	1450	20	9	3	170	0	1	0	0	6
JUNE 23...	1425	20	5	4	220	0	0	<10	0	0
AUG. 18...	1245	20	3	3	340	0	0	20	12	1

		DIS-SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	TOTAL MANGANESE (MN) (UG/L)
DATE										
MAR. 24...		0	5	2	2200	10	7	0	40	80
APR. 28...		0	14	3	9800	0	18	0	20	260
JUNE 23...		0	9	2	3200	0	10	0	30	100
AUG. 18...		0	6	3	2600	10	11	1	30	80

		DIS-SOLVED MANGANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	TOTAL SELENIUM (SE) (UG/L)	DIS-SOLVED SELENIUM (SE) (UG/L)	DIS-SOLVED STRONTIUM (SR) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
DATE										
MAR. 24...		10	.3	.2	6	0	0	1100	30	20
APR. 28...		0	.1	.1	0	0	0	790	50	10
JUNE 23...		20	.4	.4	0	1	1	890	40	10
AUG. 18...		5	.3	.2	0	1	1	1100	40	20

		PCB IN BOTTOM MATERIAL (UG/KG)	POLY-CHLORINATED NAPHTHALENES (UG/L)	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL CHLORDANE (UG/L)	CHLORDANE IN BOTTOM MATERIAL (UG/KG)	TOTAL DDT (UG/L)	DDT IN BOTTOM MATERIAL (UG/KG)	P.P.P. DDT IN BOTTOM MATERIAL (UG/KG)	TOTAL DDE (UG/L)
DATE	TIME										
NOV 20...	1415	--	--	ND	--	ND	--	ND	--	--	ND
FEB 25...	1350	--	--	ND	--	ND	--	ND	--	--	ND
MAR 24...	1350	.0	0	.00	.00	.0	.0	5	.00	1.1	.00
MAY 26...	1435	--	--	ND	ND	ND	ND	ND	ND	.8	ND
JUN 23...	1425	.0	0	.00	.00	.0	.0	0	.00	.0	.00
AUG 18...	1245	--	--	ND	--	ND	--	ND	--	--	ND

		DDE IN BOTTOM MATERIAL (UG/KG)	DDT IN BOTTOM MATERIAL (UG/KG)	TOTAL DI-AZINON (UG/L)	DI-AZINON IN BOTTOM MATERIAL (UG/KG)	TOTAL DI-ELDRIN (UG/L)	DI-ELDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL ETHION (UG/L)	ETHION IN BOTTOM MATERIAL (UG/KG)	TOTAL HEPTACHLOR (UG/L)
DATE												
NOV 20...	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND
FEB 25...	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND
MAR 24...	1.3	.00	.8	.08	--	.00	.9	.00	.0	.00	--	.00
MAY 26...	.7	ND	ND	ND	ND	ND	.6	ND	ND	ND	ND	--
JUN 23...	.0	.00	.0	.12	--	.00	.0	.00	.0	.00	--	.00
AUG 18...	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND

08188500 San Antonio River at Goliad, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL LINDANE (UG/L)	LINDANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL MALA- THION (UG/L)	MALA- THION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL METH- OXY- CHLOR (UG/L)	METHOX- YCHLOR IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL METHYL PARA- THION (UG/L)	METHYL PARA- THION IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL METHYL TRI- THION (UG/L)
NOV 20...	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND
FEB 25...	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND
MAR 24...	.0	.00	.0	.00	.0	.00	--	--	--	.00	--	.00
MAY 26...	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND
JUN 23...	.0	.00	.0	.00	.0	.00	--	--	--	.00	--	.00
AUG 18...	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND

DATE	METHYL TRI- THION IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL PARA- THION (UG/L)	PARA- THION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL TOX- APHENE (UG/L)	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL TRI- THION (UG/L)	TRI- THION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ATHA- ZINE (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
NOV 20...	--	ND	--	ND	--	ND	--	ND	ND	ND	ND
FEB 25...	--	ND	--	ND	--	ND	--	ND	ND	ND	ND
MAR 24...	--	.00	--	0	0	.00	--	--	.00	.01	.00
MAY 26...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
JUN 23...	--	.00	--	0	0	.00	--	--	.00	.00	.00
AUG 18...	--	ND	--	ND	--	ND	--	ND	ND	ND	ND

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

OCT. 22, 1975 1555 HOURS

PHYTOPLANKTON 2,400 CELLS/ML

ORGANISM_NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
...OCCYSTACEAE		
....ANKISTRODESMUS	700	29
....KIRCHNERIELLA	110	5
....SCENEDESMACEAE		
....ACTINASTRUM		0
....SCENEDESMUS	720	30
...VOLVOCALES		
...CHLAMYDOMONADACEAE		
...CHLAMYDOMONAS	87	4
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINODISCEAE		
....CYCLOTELLA	170	7
....MELOSIRA	44	2
..PENNALES		
...NAVICULACEAE		
....GYROSIGMA	22	1
....NAVICULA	44	2
...NITZSCHIAEAE		
....NITZSCHIA	330	14
CYANOPHYTA		
..MYXOPHYCEAE		
...OSCILLATORIALES		
...OSCILLATORIAEAE		
...OSCILLATORIA	130	6
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
...EUGLENALES		
...EUGLENACEAE		
....EUGLENA	22	1

DEC. 10, 1975 1255 HOURS

PHYTOPLANKTON 970 CELLS/ML

ORGANISM_NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
...OCCYSTACEAE		
....ANKISTRODESMUS	11	1
....SCENEDESMACEAE		
....SCENEDESMUS	44	5
...VOLVOCALES		
...CHLAMYDOMONADACEAE		
...CHLAMYDOMONAS	100	10
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINODISCEAE		
....CYCLOTELLA	100	10
..PENNALES		
...FRAGILARIACEAE		
....SYNEDRA	44	5
...NAVICULACEAE		
....AMPHIPRORA		0
....NAVICULA	22	2
...NITZSCHIAEAE		
....NITZSCHIA	67	7
...SURIPELLACEAE		
....SURIELLA	100	10
CYANOPHYTA		
..MYXOPHYCEAE		
...OSCILLATORIALES		
...OSCILLATORIAEAE		
...OSCILLATORIA	440	46
EUGLENOPHYTA		
..CRYPTOPHYCEAE		
...CRYPTOMONIDALES		
...CRYPTOMONADACEAE		
....CRYPTOMONAS	11	1
...EUGLENOPHYCEAE		
...EUGLENALES		
...EUGLENACEAE		
....EUGLENA	22	2

08188500 San Antonio River at Goliad, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

JAN. 21, 1976 1410 HOURS

PHYTOPLANKTON 380 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..PENNALES		
....CYMBELLACEAE	18	5
....AMPHORA	18	5
....CYMBELLA		
....FRAGILARIACEAE		
....SYNEDRA	18	5
....GOMPHONEMACEAE		
....GOMPHONEMA	37	10
....NAVICULACEAE		
....AMPHIPRORA		0
....NAVICULA	18	5
....PINNULARIA	18	5
....NITZSCHIA		
....NITZSCHIA	200	52
....SURIPELLACEAE		
....SURIPELLA	55	14
CYANOPHYTA		
..MYXOPHYCEAE		
..OSCILLATORIALES		
..OSCILLATORIA		
..OSCILLATORIA		0

FEB. 25, 1976 1350 HOURS

PHYTOPLANKTON 770 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..OCCYSTACEAE		
....ANKISTRODESMUS	23	3
....KIRCHNERIELLA	23	3
....OCCYSTIS		0
....TETRAEDRON	23	3
....SCENEDESMACEAE		
....SCENEDESMUS	230	30
..VOLVOCALES		
..CHLAMYDOMONADACEAE		
..CHLAMYDOMONAS	23	3
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCACEAE		
..CYCLOTELLA	120	15
..PENNALES		
..NAVICULACEAE		
..NAVICULA	23	3
..NITZSCHIA		
..NITZSCHIA	260	33
..SURIPELLACEAE		
..SURIPELLA	23	3
CYANOPHYTA		
..MYXOPHYCEAE		
..OSCILLATORIALES		
..OSCILLATORIA		
..OSCILLATORIA		0
EUGLENOPHYTA		
..CRYPTOPHYCEAE		
..CRYPTOMONIDAE		
..CRYPTOMONADACEAE		
....CRYPTOMONAS	23	3

MAR. 24, 1976 1350 HOURS

PHYTOPLANKTON 11,000 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..MICRACITINACEAE		
..MICRACITINUM	160	1
..OCCYSTACEAE		
....ANKISTRODESMUS	310	3
....SCENEDESMACEAE		
....SCENEDESMUS	2,300	20
..VOLVOCALES		
..CHLAMYDOMONADACEAE		
..CHLAMYDOMONAS	230	2
..ZYGNEMATALES		
..DESMIDIACEAE		
..CLOSTERIUM	78	1
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCACEAE		
..CYCLOTELLA	700	6
..PENNALES		
..NITZSCHIA		
..NITZSCHIA	310	3
..SURIPELLACEAE		
..SURIPELLA	78	1
CYANOPHYTA		
..MYXOPHYCEAE		
..CHROOCOCCALES		
..CHROOCOCCACEAE		
....ANACYSTIS	7,200	63

APR. 28, 1976 1450 HOURS

PHYTOPLANKTON 150,000 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..BACILLARIOPHYCEAE		
..PENNALES		
..FRAGILARIACEAE		
..FRAGILARIA		0
..NITZSCHIA		
..NITZSCHIA		0
CYANOPHYTA		
..MYXOPHYCEAE		
..OSCILLATORIALES		
..NOSTOCACEAE		
..APHANIZOYENON	35,000	24
..OSCILLATORIA		
..OSCILLATORIA	110,000	76

MAY 26, 1976 1435 HOURS

PHYTOPLANKTON 290 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..OCCYSTACEAE		
....ANKISTRODESMUS	48	17
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCACEAE		
..CYCLOTELLA	97	33
..PENNALES		
..NAVICULACEAE		
..DIPLONEIS	48	17
..NAVICULA	48	17
..NITZSCHIA		
..NITZSCHIA	48	17

08188500 San Antonio River at Goliad, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

JUNE 23, 1976 1425 HOURS

PHYTOPLANKTON 37,000 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...MICRACTINIUM		
...OCCYSTACEAE		
...ANKISTRODESMUS	340	0
...SCENEDESMACEAE		1
...ACTINASTRUM	920	2
...CHUCIGENIA	2,500	7
...SCENEDESMUS	230	1
...TETRASPOALES		
...PALMELLACEAE		
...GLOEOCYSTIS	1,600	4
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
...CENTRALES		
...COSCINODISCACEAE		
...CYCLOTELLA	1,000	3
...PENNALES		
...NITZSCHACEAE		
...NITZSCHIA	570	2
...SURIPELLACEAE		
...SURIPELLA		0
CYANOPHYTA		
..MYXOPHYCEAE		
...OSCILLATORIALES		
...OSCILLATORIA		
...OSCILLATORIA	30,000	80

JULY 21, 1976 1410 HOURS

PHYTOPLANKTON 190,000 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...OCCYSTACEAE		
...ANKISTRODESMUS		0
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
...CENTRALES		
...COSCINODISCACEAE		
...CYCLOTELLA		0
...PENNALES		
...NAVICULACEAE		
...NAVICULA		0
...NITZSCHACEAE		
...NITZSCHIA		0
CYANOPHYTA		
..MYXOPHYCEAE		
...OSCILLATORIALES		
...OSCILLATORIA		
...OSCILLATORIA	190,000	99

AUG. 18, 1976 1245 HOURS

PHYTOPLANKTON 6,100 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...OCCYSTACEAE		
...ANKISTRODESMUS	57	1
...KIRCHNERIELLA	170	3
...SCENEDESMACEAE		
...SCENEDESMUS	340	6
...VOLVOCALES		
...CHLAMYDOMONADACEAE		
...CHLAMYDOMONAS	57	1
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
...CENTRALES		
...COSCINODISCACEAE		
...CYCLOTELLA	280	5
...PENNALES		
...NITZSCHACEAE		
...NITZSCHIA	110	2
...SURIPELLACEAE		
...SURIPELLA	57	1
CYANOPHYTA		
..MYXOPHYCEAE		
...OSCILLATORIALES		
...OSCILLATORIA		
...OSCILLATORIA	5,000	81
EUGLENOPHYTA		
..CRYPTOPHYCEAE		
...CRYPTOMONIDALES		
...CRYPTOCHRYSIDACEAE		
...CHROOMONAS	57	1

SEP. 22, 1976 1400 HOURS

PHYTOPLANKTON 480 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
...PENNALES		
...NAVICULACEAE		
...NAVICULA	240	50
...NITZSCHACEAE		
...NITZSCHIA	240	50
...DENTICULA		

GUADALUPE RIVER BASIN

08188500 San Antonio River at Goliad, Tex.--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

MONTH	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA+MG) (MG/L)
OCT. 1975.....	13998	1080	650	24400	130	5020	120	4520	380
NOV. 1975.....	11835	1080	650	20700	130	4180	120	3880	380
DEC. 1975.....	16044	974	590	25400	120	5010	110	4670	340
JAN. 1976.....	13047	1100	660	23300	130	4710	120	4380	390
FEB. 1976.....	9855	1210	730	19300	160	4160	140	3620	430
MAR. 1976.....	11462	1150	690	21400	150	4500	130	3960	400
APR. 1976.....	46746	530	320	40200	50	6270	53	6740	180
MAY 1976.....	83071	442	260	59400	38	8510	43	9540	150
JUNE 1976.....	21393	954	570	33000	110	6250	110	6100	330
JULY 1976.....	34746	642	390	36200	65	6090	67	6310	220
AUG. 1976.....	17762	911	550	26200	100	4850	100	4810	320
SEPT 1976.....	25950	641	380	26900	64	4460	67	4690	220
TOTAL	305909	**	**	356000	**	64000	**	63200	**
WTD.AVG.	838.11	719	430	**	78	**	77	**	250

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1110	671	1150	929	1180	1300	1090	333	642	1120	724	1050
2	1140	782	1110	978	1180	1240	1130	480	794	1110	735	987
3	1160	874	1150	1040	1150	1190	1170	701	870	1120	765	946
4	1160	996	1150	1080	1180	1260	1180	550	750	1090	786	703
5	1170	1050	1150	1080	1180	1260	1140	634	880	1100	800	698
6	1140	1090	1140	1090	1170	1270	1040	703	905	1090	823	688
7	1110	1100	1170	1120	1200	1260	1000	797	921	1100	814	873
8	1160	1130	1160	1140	1190	1260	941	500	936	800	823	883
9	1190	1120	1150	1140	1190	1240	670	389	982	719	844	885
10	1210	1080	1170	1100	1160	1180	776	329	1020	525	851	890
11	1190	1090	1180	1120	1180	1010	755	316	1010	227	877	853
12	1190	1100	1180	1100	1190	764	858	335	1020	580	901	799
13	1180	1130	1180	1090	1200	904	937	359	1010	745	901	805
14	1140	1130	1210	1130	1200	1020	921	425	1030	676	919	828
15	1180	1140	1190	1140	1200	1070	858	323	1040	541	927	841
16	1160	1130	1150	1120	1190	1090	945	530	1050	606	962	890
17	1190	1120	1160	1140	1200	1180	1030	402	1060	697	987	925
18	1190	1090	1180	1130	1230	1210	500	474	1070	664	1010	946
19	1190	1140	1210	1100	1230	1180	325	609	940	650	1080	962
20	1180	1160	1180	1090	1250	1190	442	742	978	603	1070	500
21	1160	1170	1170	1130	1250	1190	409	718	991	650	1070	257
22	1170	1140	1130	1140	1250	1150	442	440	789	667	1060	521
23	1170	1140	1120	1160	1250	1150	364	877	921	650	991	757
24	1190	1140	600	1140	1220	1190	451	798	1050	603	995	463
25	1190	1130	509	1100	1230	1210	565	614	1090	637	1020	544
26	1160	1170	1080	1090	1270	1190	630	664	1130	654	979	716
27	1170	1190	1150	1070	1310	1190	697	550	1120	664	1050	562
28	1050	1190	801	1090	1320	1190	736	351	1100	668	1050	500
29	938	1190	1000	1120	1310	1140	748	381	1120	676	1020	436
30	528	1200	987	1150	---	1110	328	390	1120	691	1030	342
31	639	---	878	1170	---	1140	---	470	---	697	1020	---
MONTH	1120	1090	1090	1100	1220	1160	769	535	978	743	932	735

08188500 San Antonio River at Goliad, Tex.--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	21.0	12.0	18.5	4.5	15.5	10.0	13.0	24.0	26.5	26.5	21.0
2	18.5	24.0	11.0	15.5	7.0	18.5	13.0	18.5	21.0	26.5	26.5	21.0
3	18.0	18.5	13.0	4.5	4.5	18.5	15.5	15.5	24.0	29.5	26.5	24.0
4	15.5	21.0	15.5	3.5	13.0	15.5	18.5	15.5	24.0	24.0	24.0	26.5
5	18.0	18.5	18.5	4.5	15.5	15.5	15.5	14.5	24.0	24.0	24.0	26.5
6	18.0	18.5	18.5	9.0	9.0	10.0	18.5	21.0	21.0	24.0	26.5	21.0
7	20.0	20.0	15.5	7.0	7.0	10.0	18.5	13.5	18.5	21.0	26.5	24.0
8	20.0	21.0	15.5	1.5	10.0	15.5	13.0	15.5	18.5	18.5	26.5	24.0
9	21.0	22.0	13.0	7.0	13.0	10.0	10.0	18.5	18.5	18.5	24.0	24.0
10	24.0	20.0	13.0	13.0	13.0	13.0	18.5	18.5	24.0	18.5	24.0	21.0
11	24.0	18.5	15.5	13.0	18.5	15.5	15.5	14.5	24.0	18.5	26.5	21.0
12	23.5	18.5	15.5	11.0	15.5	15.5	18.5	21.0	24.0	21.0	24.5	21.0
13	23.5	14.5	18.5	15.5	13.0	9.0	13.0	18.5	24.0	18.5	26.5	21.0
14	24.0	13.0	18.5	10.0	18.5	9.0	18.5	15.5	24.0	18.5	26.5	24.0
15	24.0	13.0	18.5	9.0	18.5	10.0	18.5	14.5	24.0	21.0	24.5	21.0
16	24.0	15.5	11.0	9.0	18.5	10.0	13.0	14.5	21.0	24.0	26.5	21.0
17	20.0	18.5	13.0	7.0	18.5	9.0	15.5	13.5	26.5	26.5	24.0	24.0
18	18.5	18.5	7.0	10.0	15.5	10.0	10.0	14.5	26.5	24.0	24.0	21.0
19	15.5	20.0	9.0	10.0	15.5	15.5	13.0	15.5	29.5	26.5	26.5	21.0
20	20.0	15.5	9.0	9.0	18.5	18.5	13.0	13.5	29.5	26.5	24.0	18.5
21	18.5	13.0	9.0	10.0	15.5	18.5	13.0	15.5	26.5	24.0	24.0	15.5
22	21.0	10.0	9.0	7.0	10.0	13.0	13.0	21.0	26.5	26.5	21.0	18.5
23	24.0	13.0	7.0	7.0	9.0	13.0	15.5	21.0	29.5	24.0	24.0	15.5
24	24.0	10.0	10.0	13.0	9.0	13.0	18.5	21.0	29.5	24.0	24.0	18.5
25	20.0	13.0	7.0	13.0	9.0	18.5	21.0	24.0	24.0	24.0	21.0	18.5
26	18.5	10.0	9.0	13.0	13.0	18.5	21.0	21.0	21.0	24.0	21.0	18.5
27	18.5	9.0	10.0	4.5	10.0	13.0	21.0	13.5	29.5	21.0	24.0	18.5
28	21.0	13.0	13.0	7.0	13.0	15.5	18.5	13.5	21.0	24.0	24.0	15.5
29	22.0	18.5	11.0	9.0	13.0	18.5	15.5	18.5	24.0	24.0	21.0	15.5
30	18.5	18.5	10.0	13.0	---	13.0	13.0	24.0	24.0	24.0	24.0	13.0
31	20.0	---	7.0	13.0	---	10.0	---	18.5	---	24.0	18.5	---
MONTH	20.5	16.5	12.5	9.5	12.5	14.0	15.5	14.5	24.0	23.0	24.5	20.5

GUADALUPE RIVER BASIN

08188600 Guadalupe-Blanco River Authority Calhoun Canal Flume No. 1 near Long Mott, Tex.

LOCATION.--Lat 28°29'44", long 96°46'18", Calhoun County, on right bank at concrete Parshall flume No. 1, 518 ft (158 m) upstream from State Highway 185, 1,900 ft (579 m) downstream from pumping station on Goff Bayou, and 1.1 miles (1.8 km) northwest of Long Mott.

PERIOD OF RECORD.--March 1968 to February 1970 (monthly discharge only), March 1970 to current year.

GAGE.--Deflection-vane recorder, duplex water-stage recorder and Parshall flume. Datum of gage is 23.53 ft (7.172 m) above mean sea level.

AVERAGE DISCHARGE.--8 years, 101 ft³/s (2.860 m³/s), 73,170 acre-ft/yr (90.2 hm³/yr).

EXTREMES.--Period of record: Maximum daily discharge, 311 ft³/s (8.81 m³/s) July 7, 1968; no flow at times in 1968-74 and 1976.

REMARKS.--Records fair. Flow diverted from Guadalupe River 550 ft (168 m) upstream from Guadalupe River near Tivoli (station 08188800), and then through a system of canals, Hog Bayou, and Goff Bayou, a distance of 8.9 miles (14.3 km) to the pumping station on Goff Bayou 1,900 ft (579 m) upstream from flume No. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	132	74	36	43	67	31	115	65	181	257	78	219
2	135	48	35	48	79	45	144	68	184	240	80	217
3	129	20	60	51	74	38	149	82	173	232	80	200
4	111	2.9	51	46	87	28	136	126	174	243	84	195
5	144	1.4	45	48	60	19	131	153	195	253	114	195
6	144	19	55	53	48	8.4	166	176	196	242	136	195
7	120	41	56	56	54	25	167	159	204	222	135	195
8	115	36	51	42	57	27	107	118	195	209	135	200
9	115	34	53	46	53	20	76	115	194	157	152	214
10	102	43	51	49	53	29	100	159	194	54	177	219
11	92	50	51	41	54	16	111	191	191	57	190	222
12	90	40	49	46	54	28	106	209	192	82	187	212
13	92	37	52	47	56	34	108	170	193	148	218	206
14	91	43	48	58	57	68	110	92	204	145	173	198
15	91	42	79	36	58	58	87	89	215	35	161	209
16	74	43	91	25	59	76	90	100	224	18	170	217
17	64	24	80	21	59	76	99	119	223	65	165	218
18	43	55	71	26	55	72	102	154	220	45	161	215
19	31	96	61	35	49	61	147	186	210	114	171	212
20	30	85	54	37	55	43	127	170	206	126	171	216
21	40	49	52	34	62	46	65	139	207	128	180	213
22	72	54	51	33	52	74	81	116	74	139	180	195
23	54	41	63	24	80	92	117	117	203	131	190	188
24	20	.40	49	23	86	76	158	141	208	125	190	186
25	50	.50	40	25	92	76	177	171	199	124	181	192
26	40	2.1	59	26	97	78	175	156	201	122	168	200
27	53	42	59	25	57	78	181	125	214	117	166	193
28	55	50	62	29	29	64	193	123	234	111	177	192
29	58	47	51	42	27	63	105	161	235	86	205	185
30	67	45	63	66	---	89	62	162	239	62	215	181
31	83	---	49	67	---	116	---	157	---	71	219	---
TOTAL	2527	1165.30	1727	1248	1770	1654.4	3692	4269	5982	4200	5009	6099
MEAN	81.5	38.8	55.7	40.3	61.0	53.4	123	138	199	135	162	203
MAX	149	96	91	67	97	116	193	209	239	257	219	222
MIN	20	.40	35	21	27	8.4	62	65	74	18	78	181
AC-FT	5010	2310	3430	2480	3510	3280	7320	8470	11870	8330	9940	12100
CAL YR 1975	TOTAL	45344.30	MEAN	124	MAX	286	MIN	.40	AC-FT	89940		
WTR YR 1976	TOTAL	34342.70	MEAN	107	MAX	257	MIN	.40	AC-FT	78040		

08188750 Guadalupe-Blanco River Authority Calhoun Canal Flume No. 2 near Long Mott, Tex.

LOCATION.--Lat 28°30'09", long 96°45'40", Calhoun County, on left bank at concrete Parshall flume No. 2, 3,700 ft (1,130 m) downstream from State Highway 185, 4,200 ft (1,280 m) downstream from streamflow station 08188600, and 1.4 miles (2.3 km) north of Long Mott.

PERIOD OF RECORD.--October 1971 to June 1972 (monthly discharge only), July 1972 to current year.

GAGE.--Deflection-vane recorder, water-stage recorder, and Parshall flume. Datum of gage is 22.37 ft (6.818 m) above mean sea level.

AVERAGE DISCHARGE.--5 years, 82.4 ft³/s (2.334 m³/s), 59,700 acre-ft/yr (73.6 hm³/yr).

EXTREMES.--Period of record: Maximum daily discharge, 282 ft³/s (7.99 m³/s) June 23, 1975; no flow at times in 1972-76.

REMARKS.--Records fair. Flow diverted from Guadalupe River 550 ft (168 m) upstream from Guadalupe River near Tivoli (station 08188800), and then through a system of canals, Hog Bayou, and Goff Bayou, a distance of 8.9 miles (14.3 km) to the pumping station on Goff Bayou, 1,900 ft (579 m) upstream from flume No. 1. Diversions to the Union Carbide Co. between flumes 1 (station 08188600) and 2 during the current year were 20,250 acre-ft (25.0 hm³).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	114	10	0		0	2.4	62	38	169	257	61	219
2	117	0	1.8		0.8	11	93	46	173	240	62	217
3	119	0	2.4		10	17	106	60	159	227	62	197
4	117	0	0		1.1	10	94	112	159	233	67	191
5	126	0	0		1.5	0	83	133	186	240	96	190
6	124	0	.20		0	0	118	101	189	230	114	188
7	116	0	.40		0	0	118	145	197	212	114	190
8	114	0	0		0	0	50	107	189	198	115	197
9	113	0	0		0	0	8.7	105	188	139	132	210
10	99	0	0		0	0	36	144	190	23	162	213
11	118	0	0		0	0	55	181	190	26	183	218
12	78	.20	0		0	5.0	48	202	187	62	187	207
13	119	.80	0		0	4.9	55	165	185	131	217	201
14	117	0	0		0	17	57	85	194	123	162	189
15	115	0	1.0		0	14	55	85	211	28	147	201
16	119	0	24		0	41	26	93	219	14	156	209
17	112	.80	21		0	43	38	107	217	59	151	210
18	114	4.6	19		0	34	46	144	216	85	138	207
19	116	25	11		0	33	100	185	206	109	150	206
20	7.9	19	.80		0	5.0	101	165	200	126	150	206
21	0	.40	.90		0	3.4	45	132	205	128	160	204
22	7.0	0	.60		0	40	60	108	74	126	160	184
23	7.3	0	1.7		11	78	105	107	194	120	165	175
24	0	0	.90		16	55	133	128	203	112	165	174
25	0	0	3.4		22	51	153	163	194	113	174	178
26	0	0	8.5		26	68	151	147	194	111	159	190
27	0	0	0.7		9.0	55	158	113	203	103	154	179
28	0	0	7.5		0	31	176	111	222	103	167	188
29	2.4	0	1.9		0	30	90	145	220	71	204	165
30	.30	0	3.8		---	43	35	146	239	36	215	155
31	8.7	---	1.4		---	68	---	143	---	50	218	---
TOTAL	1672.60	60.80	134.00	0	111.4	755.20	2455.7	3906	5772	3840	4567	5858
MEAN	54.0	2.03	4.32	0	3.84	24.4	81.9	126	192	124	147	195
MAX	126	25	24	0	20	78	176	202	239	257	218	219
MIN	0	0	0	0	0	0	8.7	38	74	14	61	155
AC-FT	3320	121	266	0	221	1500	4870	7750	11450	7620	9060	11620

CAL YR 1975 TOTAL 33981.40 MEAN 93.1 MAX 282 MIN 0 AC-FT 67400
WTR YR 1976 TOTAL 29132.70 MEAN 79.6 MAX 257 MIN 0 AC-FT 57780

GUADALUPE RIVER BASIN

08188800 Guadalupe River near Tivoli, Tex.

LOCATION.--Lat 28°30'20", long 96°53'04", Calhoun-Refugio County line, on right bank at diversion dam and salt-water barrier, 550 ft (168 m) downstream from Calhoun County Irrigation Canal intake, 0.4 mile (0.6 km) downstream from San Antonio River, 3.5 miles (5.6 km) north of Tivoli, and 10.2 miles (16.4 km) upstream from mouth.

DRAINAGE AREA.--10,128 mi² (26,232 km²).

PERIOD OF RECORD.--Gage height: September 1965 to current year.

Water quality: Chemical analyses: October 1965 to current year. Chemical and biochemical analyses: October 1968 to current year. Water temperatures: October 1966 to current year.

GAGE.--Duplex water-stage recorder. Datum of gage is 0.04 ft (0.012 m) above mean sea level.

EXTREMES.--Gage height: Current year: Maximum gage height (above barrier), 8.5 ft (2.59 m) Apr. 20-22; minimum, 2.9 ft (0.88 m) Apr. 4. Maximum gage height (below barrier), 8.4 ft (2.56 m) Apr. 20-22; minimum, 2.7 ft (0.82 m) Apr. 4.

Period of record: Maximum gage height (above barrier), 13.7 ft (4.18 m) Sept. 22, 1967; minimum, 1.5 ft (0.46 m) Mar. 16, 1967.

Maximum gage height (below barrier), 13.6 ft (4.15 m) Sept. 22, 1967; minimum, 0.5 ft (0.15 m) July 12, 14, 1967.

Historic: Maximum stage since at least 1936, that of Sept. 22, 1967. Flood in July 1936 reached a stage of 11 ft (3.4 m), present site and datum. Levees along the Navigation Canal from San Antonio Bay to Victoria were built in 1961 and decreased the flood plain materially.

Water quality: Current year: Maximum daily specific conductance, 898 micromhos Mar. 12; minimum daily, 210 micromhos Dec. 26.

Period of record: Maximum daily specific conductance, 1,000 micromhos June 1, 1971; minimum daily, 170 micromhos Oct. 30, 1972.

Maximum water temperatures (1966-69), 32.0°C on several days during June, July, and August 1967, 1968, and 1969; minimum, 8.0°C Jan. 15, 1968.

REMARKS.--Many small diversions above station. Some regulation by powerplants. Upstream regulation same as that for Guadalupe River at Cuero (station 08175800) and San Antonio River at Goliad (station 08188500).

REVISIONS.--WRD Texas 1968: Drainage area.

MAXIMUM DAILY GAGE HEIGHT, IN FEET, UPSTREAM AND DOWNSTREAM FROM SALT WATER BARRIER,
WATER YEAR OCTOBER TO SEPTEMBER

DAY	OCT		NOV		DEC		JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP	
	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down	up	down
1	4.5	4.4	6.5	6.3	3.8	3.6	6.3	6.2	3.7	3.5	4.1	3.4	3.2	3.1	8.1	7.9	8.2	8.1	6.6	6.5	7.4	7.3	5.2	5.1
2	4.3	4.2	6.0	5.8	3.8	3.7	6.0	5.8	3.8	3.6	3.7	3.3	3.1	3.0	8.2	7.9	8.2	8.1	6.5	6.4	7.4	7.3	5.2	5.1
3	4.2	4.1	5.8	5.6	4.0	3.8	5.6	5.4	3.8	3.6	3.9	3.6	3.0	2.8	8.2	7.9	8.1	7.9	6.4	6.2	7.3	7.2	5.6	5.5
4	4.2	4.1	5.6	5.4	4.0	3.9	5.4	5.2	3.7	3.5	4.0	3.8	2.9	2.7	8.0	7.9	8.0	7.8	6.2	6.0	7.2	7.1	5.6	5.5
5	4.1	4.0	5.3	5.2	4.2	4.0	5.2	5.0	3.6	3.4	4.0	3.8	3.8	3.1	7.9	7.8	7.9	7.7	5.9	5.8	7.2	7.1	5.6	5.5
6	4.1	4.0	5.1	4.9	4.2	4.0	5.1	4.9	3.6	3.4	3.4	3.2	5.0	4.8	7.8	7.7	7.9	7.7	5.7	5.6	7.2	7.0	5.8	5.6
7	4.1	4.0	5.1	4.9	3.7	3.5	5.1	4.9	3.6	3.4	3.7	3.5	6.0	5.8	7.7	7.6	7.9	7.7	5.6	5.5	7.0	6.9	5.8	5.6
8	4.3	4.2	5.1	4.9	3.6	3.5	4.8	4.6	3.6	3.4	3.8	3.6	6.7	6.5	7.7	7.5	7.9	7.7	6.0	5.9	6.9	6.8	5.8	5.6
9	4.2	4.1	5.0	4.8	3.6	3.4	4.6	4.4	3.6	3.4	4.2	4.0	7.4	7.2	7.8	7.6	7.9	7.7	7.4	7.0	6.8	6.7	5.7	5.6
10	4.2	4.1	4.9	4.7	3.6	3.4	4.6	4.4	3.6	3.4	4.9	4.7	7.5	7.3	8.0	7.8	7.8	7.6	7.8	7.6	6.6	6.5	5.6	5.5
11	4.1	4.0	4.7	4.6	3.6	3.4	4.6	4.4	3.5	3.3	5.6	5.4	7.5	7.3	8.1	7.9	7.7	7.6	7.8	7.6	6.5	6.4	5.5	5.4
12	4.1	4.0	4.7	4.5	3.7	3.5	4.3	4.1	3.6	3.4	5.6	5.4	7.4	7.3	8.1	8.0	7.7	7.5	8.0	7.8	6.4	6.3	5.4	5.3
13	4.1	4.0	4.3	4.1	3.8	3.6	4.4	4.1	3.5	3.4	5.4	5.2	7.5	7.3	8.2	8.1	7.7	7.5	8.0	7.8	6.3	6.2	5.5	5.4
14	4.2	4.1	4.1	3.9	4.0	3.8	4.4	4.1	3.6	3.4	4.8	4.6	7.5	7.3	8.3	8.2	7.6	7.5	8.0	7.9	6.1	6.0	5.4	5.3
15	4.3	4.1	4.0	3.8	4.0	3.9	4.3	4.1	3.8	3.6	4.3	4.2	7.5	7.3	8.4	8.2	7.6	7.4	8.0	7.9	6.0	5.9	5.5	5.4
16	4.4	4.2	4.0	3.8	3.7	3.5	4.3	4.1	3.8	3.6	3.9	3.7	7.5	7.4	8.4	8.2	7.6	7.4	7.9	7.8	5.9	5.8	5.4	5.3
17	4.4	4.2	4.0	3.8	3.7	3.6	4.2	4.0	3.8	3.6	3.5	3.4	7.4	7.2	8.3	8.1	7.6	7.4	7.8	7.7	5.8	5.7	5.4	5.3
18	4.2	4.0	4.3	4.1	3.6	3.4	4.2	4.0	3.8	3.6	3.6	3.5	7.3	7.2	8.3	8.1	7.6	7.4	7.8	7.7	5.7	5.6	5.4	5.3
19	3.9	3.8	4.4	4.2	3.6	3.4	4.2	4.0	3.6	3.4	4.0	3.8	8.4	8.2	8.2	8.1	7.5	7.4	7.8	7.7	5.7	5.6	5.2	5.1
20	3.9	3.8	4.4	4.2	3.5	3.4	4.2	4.0	3.8	3.6	4.0	3.8	8.5	8.4	8.2	8.0	7.5	7.4	7.8	7.7	5.7	5.6	4.9	4.8
21	3.9	3.7	4.0	3.9	3.5	3.3	4.1	3.9	3.9	3.7	3.6	3.5	8.5	8.4	8.1	7.9	7.6	7.4	7.8	7.7	5.7	5.6	6.4	6.3
22	4.0	3.9	4.0	3.8	3.4	3.2	4.1	3.9	3.7	3.5	3.6	3.4	8.5	8.4	8.1	7.9	7.5	7.4	7.8	7.7	5.7	5.6	7.3	7.2
23	4.1	3.9	4.0	3.8	3.5	3.3	4.3	4.1	3.6	3.4	3.7	3.6	8.4	8.3	8.1	7.8	7.5	7.4	7.8	7.7	5.7	5.5	7.5	7.4
24	4.3	4.1	4.0	3.8	5.1	4.9	4.3	4.1	3.4	3.2	3.7	3.6	8.4	8.2	8.0	7.7	7.5	7.4	7.8	7.6	5.7	5.6	7.5	7.4
25	4.3	4.1	3.9	3.7	7.4	7.3	4.4	4.2	3.2	3.0	4.0	3.8	8.3	8.2	8.0	7.8	7.4	7.3	7.7	7.6	5.7	5.6	7.5	7.4
26	4.5	4.3	3.8	3.6	8.0	7.9	4.4	4.2	3.1	2.9	4.0	3.9	8.3	8.2	8.0	7.8	7.4	7.2	7.7	7.6	5.6	5.5	7.3	7.2
27	4.7	4.5	3.6	3.5	8.1	7.9	4.3	4.1	3.2	2.9	3.7	3.5	8.2	8.0	8.0	7.7	7.2	7.1	7.7	7.6	5.5	5.4	6.8	6.7
28	4.8	4.6	3.8	3.7	7.9	7.8	4.1	4.0	3.2	3.0	3.6	3.4	8.1	7.9	7.9	7.8	7.1	6.9	7.6	7.5	5.4	5.3	6.3	6.2
29	5.5	5.3	4.2	4.1	7.4	7.3	4.2	4.0	3.4	3.2	3.7	3.6	8.0	7.8	8.1	7.9	6.9	6.7	7.6	7.5	5.4	5.3	7.0	6.8
30	6.6	6.5	4.2	4.0	7.2	7.0	4.2	4.0	---	---	3.7	3.6	8.1	7.8	8.1	8.0	6.7	6.5	7.5	7.4	5.3	5.2	7.5	7.3
31	6.6	6.5	---	---	6.8	6.6	4.1	3.9	---	---	3.3	3.2	---	---	8.2	8.0	---	---	7.4	7.3	5.3	5.1	---	---

08188800 Guadalupe River near Tivoli, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)
OCT. 15...	1625	801	8.1	26.0	--	--	--	--	--	300	61
NOV. 19...	1645	795	7.9	21.0	10	33	8.3	92	1.8	290	47
DEC. 16...	1040	854	8.5	15.0	--	--	--	--	--	320	72
JAN. 22...	1110	806	8.0	13.5	15	20	9.2	88	1.4	300	61
FEB. 12...	1020	823	8.7	18.0	--	--	--	--	--	300	64
MAR. 25...	1130	795	7.9	21.0	30	40	8.0	89	1.1	290	68
APR. 20...	1020	278	7.9	21.5	--	--	--	--	--	98	6
MAY 27...	0900	512	7.6	25.0	50	170	5.6	67	5.1	200	36
JUNE 22...	1005	727	8.1	29.0	--	--	--	--	--	270	53
JULY 22...	1320	532	7.7	28.5	48	150	5.5	71	1.0	210	43
AUG. 03...	1015	620	8.1	29.5	--	--	--	--	--	240	43
SEP. 23...	1140	385	7.7	25.5	65	230	6.2	78	2.1	140	15

DATE	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)
OCT. 15...	85	21	53	1.3	3.3	290	0	51	76	.5
NOV. 19...	86	19	57	1.5	3.5	300	0	56	79	.4
DEC. 16...	91	23	58	1.4	3.2	285	10	59	83	.4
JAN. 22...	88	19	56	1.4	3.3	290	0	55	85	.4
FEB. 12...	85	22	60	1.5	3.3	265	13	63	86	.4
MAR. 25...	87	18	59	1.5	3.8	273	0	59	83	.6
APR. 20...	34	3.2	14	.6	4.0	112	0	13	20	.1
MAY 27...	61	11	29	.9	4.0	198	0	36	42	.1
JUNE 22...	80	18	43	1.1	3.5	269	0	55	63	.3
JULY 22...	66	12	32	1.0	4.0	209	0	43	46	.4
AUG. 03...	70	17	32	.9	2.8	246	0	41	48	.3
SEP. 23...	42	8.9	23	.8	4.0	154	0	21	32	.2

GUADALUPE RIVER BASIN

08188800 Guadalupe River near Tivoli, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED SILICA (SI02) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NON- FILT- RABLE RESIDUE (MG/L)	VOL. NON- FILT- RABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
OCT. 15...	12	445	--	--	--	--	--	--	--	--
NOV. 19...	15	464	63	5	2.3	.01	.02	.59	.79	2.6
DEC. 16...	13	481	--	--	--	--	--	--	--	--
JAN. 22...	10	461	50	0	2.5	.02	.04	.75	.50	2.6
FEB. 12...	10	473	--	--	--	--	--	--	--	--
MAR. 25...	15	461	112	27	2.3	.03	.28	1.5	.67	6.8
APR. 20...	7.7	151	--	--	--	--	--	--	--	--
MAY 27...	14	295	384	62	.99	.01	.05	.80	.43	7.2
JUNE 22...	15	410	--	--	--	--	--	--	--	--
JULY 22...	15	322	176	28	.95	.01	.08	.65	.34	6.8
AUG. 03...	14	346	--	--	--	--	--	--	--	--
SEP. 23...	13	220	650	30	.74	.02	.07	1.4	.27	11

DATE	TIME	DIS- SOLVED ALUM- INUM (AL) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)
JAN. 22...	1110	10	1	190	0	0	0	1
MAR. 25...	1130	10	3	210	0	0	0	1
MAY 27...	0900	30	2	110	0	4	0	3
JULY 22...	1320	20	4	130	0	0	0	3

DATE	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)
JAN. 22...	0	0	20	0	.2	3	730	0
MAR. 25...	0	0	20	0	.1	2	730	10
MAY 27...	0	0	10	10	.4	0	440	0
JULY 22...	10	0	20	0	.1	0	400	10

GUADALUPE RIVER BASIN

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08188800 Guadalupe River near Tivoli, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL PCB (UG/L)	PCB IN BOTTOM MA- TERIAL (UG/KG)	POLY- CHLO- RINATED NAPH- THA- LENES (UG/L)	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL CHLOR- DANE (UG/L)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDD (UG/L)	DDD IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDE (UG/L)	DDE IN BOTTOM MA- TERIAL (UG/KG)
JAN. 22...	1110	.0	0	.00	.00	.0	.0	3	.00	.7	.00	1.1
MAR. 25...	1130	.0	0	.00	.00	.0	.0	3	.00	1.8	.00	2.2
MAY 27...	0900	.0	6	.00	.00	.0	.0	16	.00	2.3	.00	3.4
JULY 22...	1320	.0	0	.00	.00	.0	.0	6	.00	.0	.00	2.0

DATE	TOTAL DDT (UG/L)	DDT IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	TOTAL ELDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ETHION (UG/L)	TOTAL HEPTA- CHLOR (UG/L)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG)
JAN. 22...	.00	.4	.03	.00	.4	.00	.0	.00	.00	.0	.00	.0
MAR. 25...	.00	1.2	.03	.00	.6	.00	.0	.00	.00	.0	.00	.0
MAY 27...	.00	1.2	.02	.00	.1	.00	.0	.00	.00	.0	.00	.0
JULY 22...	.00	1.2	.02	.00	.5	.00	.0	.00	.00	.0	.00	.0

DATE	TOTAL LINDANE (UG/L)	LINDANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL TOX- APHENE (UG/L)	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
JAN. 22...	.00	.0	.00	.00	.00	.00	0	0	.00	--	--	--
MAR. 25...	.00	.0	.00	.00	.00	.00	0	0	.00	.00	.00	.00
MAY 27...	.00	.0	.00	.00	.00	.00	0	0	.00	.02	.01	.00
JULY 22...	.00	.0	.00	.00	.00	.00	0	0	.00	.00	.01	.00

GUADALUPE RIVER BASIN

08188800 Guadalupe River near Tivoli, Tex.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	778	769	772	---	---	---	854	832	843	612	591	606
2	778	756	768	---	---	---	839	827	833	608	597	601
3	775	770	772	---	---	---	851	836	844	645	608	624
4	775	705	749	587	576	580	836	816	827	684	647	669
5	780	746	767	639	587	612	824	811	819	743	684	708
6	789	769	778	684	639	659	824	811	819	751	730	741
7	789	775	780	740	684	718	833	824	828	756	735	746
8	791	778	782	759	724	738	841	833	837	780	753	772
9	797	780	787	778	759	769	833	818	826	789	780	783
10	791	769	783	794	775	786	819	811	816	797	783	792
11	786	772	780	822	791	802	839	830	834	822	794	809
12	802	783	796	822	780	801	836	822	829	830	819	825
13	816	802	807	805	791	798	836	824	829	828	800	814
14	816	800	809	797	780	787	839	827	834	830	802	816
15	816	794	805	---	---	---	851	838	844	805	797	801
16	811	775	794	---	---	---	845	833	839	829	812	820
17	789	756	772	822	748	785	848	827	838	812	797	805
18	791	756	780	811	792	802	839	830	834	819	808	815
19	800	772	794	825	808	816	836	830	833	827	808	818
20	804	794	799	811	792	802	836	827	834	816	808	814
21	824	800	811	835	811	823	846	830	841	827	802	814
22	833	807	820	---	---	---	865	856	860	805	789	801
23	827	805	816	---	---	---	874	861	868	803	780	787
24	823	792	808	813	809	811	861	793	826	783	772	780
25	792	775	784	825	813	819	793	279	536	867	780	821
26	778	761	773	819	813	816	285	210	248	836	824	830
27	775	751	763	822	816	820	373	303	338	836	812	824
28	751	710	730	834	812	823	419	361	390	815	801	808
29	767	747	757	816	805	810	626	419	522	808	769	788
30	870	724	812	813	794	806	662	617	640	783	772	776
31	867	748	808	---	---	---	648	607	628	797	772	787
MONTH	870	705	786	---	---	---	874	210	753	867	591	774
DAY	FEBRUARY			MARCH			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	827	797	818	881	844	862	845	739	792	539	362	450
2	853	836	844	869	861	865	838	747	792	402	363	382
3	836	811	824	883	867	875	820	769	794	471	393	432
4	829	813	823	894	849	872	820	779	800	519	469	494
5	836	822	825	876	863	870	823	780	802	547	509	528
6	843	827	831	879	866	872	780	664	722	536	512	524
7	846	822	840	873	855	864	664	598	631	523	513	518
8	822	811	817	865	855	860	693	630	662	549	530	540
9	829	811	820	858	818	838	668	608	638	573	549	561
10	822	808	817	818	759	788	608	575	592	639	599	619
11	830	819	826	895	782	838	575	440	508	599	442	520
12	835	824	830	898	881	890	447	404	426	442	412	427
13	849	827	839	884	794	839	433	426	430	412	365	388
14	836	824	829	808	726	767	459	436	448	368	361	364
15	836	816	827	726	698	712	469	444	456	379	359	369
16	849	836	842	736	727	732	486	469	478	384	377	380
17	852	816	836	748	717	732	512	487	500	382	376	379
18	842	838	840	805	755	780	529	510	520	439	415	427
19	858	832	845	862	832	847	608	318	463	430	421	426
20	857	828	842	873	830	852	318	247	282	440	429	434
21	830	808	818	883	870	876	374	328	351	491	460	476
22	816	808	812	870	854	862	379	329	354	523	480	502
23	854	828	841	859	833	846	417	392	404	524	480	502
24	881	856	868	834	808	821	416	398	407	606	549	578
25	883	833	858	811	795	803	418	393	406	700	649	674
26	875	860	868	802	790	796	426	414	420	650	634	642
27	868	860	864	818	799	808	452	432	442	634	511	572
28	864	857	860	845	828	836	442	420	431	558	544	551
29	878	856	867	859	843	851	520	484	502	605	533	569
30	---	---	---	863	852	858	578	537	558	533	427	480
31	---	---	---	867	743	842	---	---	---	432	416	423
MONTH	883	797	837	898	698	831	845	247	534	700	359	488

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08188800 Guadalupe River near Tivoli, Tex.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

[illegible]

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

[illegible]

SALT CREEK BASIN

08189100 Salt Creek near Refugio, Tex.
(Reconnaissance partial-record station)

LOCATION.--Lat 28°19'00", long 97°00'24", Refugio County, at culvert on Farm Road 774 and 16.4 miles (26.4 km) east of Refugio.

DRAINAGE AREA.--13.6 mi² (35.2 km²).

PERIOD OF RECORD.--Periodic discharge measurements: September 1967 to July 1968, June 1970 to current year. Periodic water-quality data: September 1971 (revised) to current year.

DISCHARGE AND WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIO-CHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	
JUN 09...	1040	.01	366	6.9	28.0	45	2.6	33	7.6	140	0	
JUL 20...	1030	28	266	6.8	29.0	3	3.6	47	2.0	96	0	
DATE	TIME	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISSOLVED PHOSPHATE (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	BROMIDE (BR) (MG/L)
JUN 09...	44	6.3	26	1.0	12	187	0	16	21	.6	.5	
JUL 20...	29	5.6	18	.8	8.5	138	0	8.1	17	.4	.2	
DATE	TIME	IODIDE (I) (MG/L)	DISSOLVED SILICA (SI02) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NON-FILTRABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	
JUN 09...		.01	37	256	80	.00	.00	.14	3.2	.15	35	
JUL 20...		--	66	234	9	.00	.01	.15	2.2	.06	21	

SALT CREEK BASIN

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08189100 Salt Creek near Refugio, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		DATE	TIME	DIS-SOLVED ALUMINUM (AL) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	DIS-SOLVED CHROMIUM (CR) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)			
		JUNE 09...	1040	50	7	270	0	0	0	3			
		JULY 20...	1030	10	4	310	0	0	0	2			
		DATE		DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MANGANESE (MN) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED STRONTIUM (SR) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)		
		JUNE 09...	310	0	10	40	.3	0	150	20			
		JULY 20...	390	0	10	0	.3	2	200	0			
DATE	TIME	TOTAL PCB (UG/L)	PCR IN BOTTOM MATERIAL (UG/KG)	POLY-CHLORINATED NAPHTHALENES (UG/L)	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL CHLORDANE (UG/L)	CHLORDANE IN BOTTOM MATERIAL (UG/KG)	TOTAL DDD (UG/L)	DDD IN BOTTOM MATERIAL (UG/KG)	TOTAL DDE (UG/L)	DDE IN BOTTOM MATERIAL (UG/KG)	
JUN 09...	1040	.0	0	.00	.00	.0	.0	0	.00	.0	.00	.0	
JUL 20...	1030	.0	0	.00	.00	.0	.0	0	.00	1.9	.00	3.9	
DATE		TOTAL DDT (UG/L)	DDT IN BOTTOM MATERIAL (UG/KG)	TOTAL DIAZINON (UG/L)	TOTAL DIELDRIN (UG/L)	DIELDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL ETHION (UG/L)	HEPTACHLOR IN BOTTOM MATERIAL (UG/KG)	TOTAL HEPTACHLOR EPOXIDE (UG/L)	HEPTACHLOR EPOXIDE IN BOTTOM MATERIAL (UG/KG)	
JUN 09...	.00	.0	.00	.00	.0	.00	.0	.00	.00	.0	.00	.0	
JUL 20...	.00	.5	.00	.00	.0	.00	.0	.00	.00	.0	.00	.0	
DATE		TOTAL LINDANE (UG/L)	LINDANE IN BOTTOM MATERIAL (UG/KG)	TOTAL MALATHION (UG/L)	TOTAL METHYL PARATHION (UG/L)	TOTAL METHYL TRITHION (UG/L)	TOTAL PARATHION (UG/L)	TOTAL TOXAPHENE (UG/L)	TOXAPHENE IN BOTTOM MATERIAL (UG/KG)	TOTAL TRIETHION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
JUN 09...	.00	.0	.00	.00	.00	.00	.00	0	0	.00	.00	.00	.00
JUL 20...	.00	.0	.00	.00	.00	.00	.00	0	0	.00	.00	.00	.00

COPANO CREEK BASIN

08189200 Copano Creek near Refugio, Tex.

LOCATION.--Lat 28°18'12", long 97°06'44", Refugio County, on right bank at bridge on Farm Road 774, 3.6 miles (5.8 km) upstream from Alameda Creek, 8.1 miles (13.0 km) east of Refugio, and 11.9 miles (19.1 km) upstream from mouth.

DRAINAGE AREA.--87.8 mi² (227 km²).

PERIOD OF RECORD.--Discharge: June 1970 to current year.
Water quality: Chemical, biochemical, and pesticide analyses: June 1970 to current year.

GAGE.--Water-stage recorder. Datum of gage is 17.25 ft (5.258 m) above mean sea level.

AVERAGE DISCHARGE.--6 years, 50.9 ft³/s (1.441 m³/s), 36,880 acre-ft/yr (45.5 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 611 ft³/s (17.3 m³/s) July 16 (gage height, 10.63 ft or 3.240 m); no flow at times.
 Period of record: Maximum discharge, 6,300 ft³/s (178 m³/s) Sept. 12, 1971 (gage height, 21.00 ft or 6.401 m), from rating curve extended above 3,800 ft³/s (108 m³/s); no flow at times each year.
 Maximum stage since 1921, 22 ft (6.7 m) in September 1967, from information by local residents.

REMARKS.--Discharge records good. No known diversion above station. Recording rain gage is located at station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
 MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.48	2.4	.03	34	.06		0	9.5	33	0	2.4	0
2	.39	1.8	.01	24	.06		0	18	22	0	1.9	0
3	.29	3.2	.01	14	.05		0	20	16	0	1.4	0
4	.21	6.5	.03	6.5	.05		0	19	12	0	1.0	0
5	.16	3.9	.03	2.3	0		0	16	8.7	0	.80	0
6	.12	2.1	.03	1.4	0		0	13	6.3	0	.58	2.6
7	.06	1.5	.01	.60	0		.22	10	4.7	0	.27	1.8
8	.01	1.1	.01	.29	0		4.0	8.1	3.8	0	.18	.90
9	.01	.81	0	.16	0		2.4	7.5	3.0	9.8	.09	.61
10	.01	.58	0	.05	0		16	6.6	2.4	92	.03	7.1
11	0	.42	0	.01	0		28	5.6	1.8	222	.01	19
12	0	.33	0	0	0		18	4.3	1.3	234	0	12
13	0	.26	0	0	0		12	5.1	.89	187	0	6.4
14	0	.18	0	0	0		9.0	12	.58	204	0	3.5
15	0	.16	0	0	0		6.6	13	.33	480	0	3.5
16	0	.13	0	0	0		5.0	12	.18	595	0	1.8
17	0	.11	0	0	0		3.7	16	.11	551	0	2.2
18	.15	.19	0	0	0		3.0	25	.04	426	0	2.1
19	.20	.33	0	0	0		2.2	27	.03	340	0	2.1
20	.12	.36	0	.08	0		4.4	25	.01	252	0	17
21	.08	.36	0	.12	0		4.2	50	0	208	0	63
22	.04	.36	0	.21	0		2.5	85	0	148	0	69
23	.03	.31	0	.39	0		1.8	96	0	92	0	44
24	.01	.22	.85	.37	0		1.4	124	0	49	0	24
25	.01	.16	2.6	.31	0		1.1	200	0	26	0	8.5
26	.09	.10	1.2	.21	0		.92	211	0	14	0	2.4
27	4.9	.09	7.9	.15	0		.75	193	0	10	0	17
28	3.6	.08	23	.14	0		.51	169	0	7.7	0	19
29	1.5	.06	36	.13	0		11	116	0	5.2	0	12
30	1.7	.05	43	.11	---		11	76	0	3.9	0	4.8
31	2.8	---	43	.08	---		---	49	---	3.0	0	---
TOTAL	16.97	28.15	157.71	85.61	.22	0	149.70	1642.7	117.17	4161.6	8.66	346.31
MEAN	.55	.94	5.09	2.76	.008	0	4.99	53.0	3.91	134	.28	11.5
MAX	4.9	6.5	43	34	.06	0	28	211	33	595	2.4	69
MIN	0	.05	0	0	0	0	0	4.3	0	0	0	0
AC-FT	34	56	313	170	.4	0	297	3260	232	8250	17	687

CAL YR 1975 TOTAL 701.56 MEAN 1.92 MAX 43 MIN 0 AC-FT 1390
 WTR YR 1976 TOTAL 6714.80 MEAN 18.3 MAX 595 MIN 0 AC-FT 13320

PEAK DISCHARGE (BASE, 500 FT³/S).--July 16 (1500) 611 ft³/s (10.63 ft).

08189200 Copano Creek near Refugio, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)
OCT. 07...	1438	.03	697	7.2	23.0	180	6.8	78	2.5	68	0
NOV. 11...	1405	.40	448	7.1	23.0	80	6.0	69	1.7	70	0
FEB. 03...	1550	.05	714	7.6	19.0	210	9.2	98	3.2	79	0
APR. 20...	1045	2.7	288	6.9	23.5	120	5.4	63	7.1	42	0
27...	1620	.70	588	6.9	27.0	130	6.4	79	6.1	64	0
JUNE 09...	0930	3.1	238	7.3	26.0	65	4.7	59	6.1	51	0
JULY 20...	0843	300	115	6.4	31.0	7	3.4	46	2.1	35	0

DATE	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	BROMIDE (BR) (MG/L)
OCT. 07...	21	3.8	120	6.3	7.5	121	0	58	130	--	--
NOV. 11...	23	3.0	69	3.6	7.3	87	0	35	69	.4	.2
FEB. 03...	25	4.0	120	5.9	8.5	106	0	73	120	.3	--
APR. 20...	13	2.3	41	2.8	7.5	64	0	22	40	.5	.3
27...	19	3.9	94	5.1	9.5	88	0	49	110	.6	--
JUNE 09...	15	3.3	29	1.8	5.8	80	0	12	27	.4	--
JULY 20...	10	2.4	11	.8	5.5	53	0	6.0	11	.3	.1

DATE	IODIDE (I) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NON- FILT- RABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
OCT. 07...	--	27	427	410	.00	.01	.03	2.6	.18	8.2
NOV. 11...	.02	18	269	172	.03	.01	.04	1.4	.18	21
FEB. 03...	--	5.1	408	440	.00	.06	.19	1.8	.18	13
APR. 20...	.01	19	178	232	.10	.06	.16	2.1	.32	19
27...	--	22	351	248	.01	.11	.15	2.3	.38	21
JUNE 09...	--	33	165	128	.08	.01	.08	2.6	.11	28
JULY 20...	.00	29	102	17	.00	.01	.05	1.6	.09	23

COPANO CREEK BASIN

08189200 Copano Creek near Refugio, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		DIS- SOLVED ALUM- INUM (AL) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)				
DATE	TIME											
NOV. 11...	1405	0	5	320	0	0	0	4				
APR. 20...	1045	100	2	270	0	0	0	10				
JULY 20...	0843	20	3	190	0	0	0	3				
		DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)			
DATE	TIME											
NOV. 11...	150	0	10	60	.0	0	450	20				
APR. 20...	280	6	10	0	.2	0	180	50				
JULY 20...	240	0	0	0	.1	0	160	0				
		PCB IN BOTTOM MA- TERIAL (UG/KG)	POLY- CHLO- RINATED NAPH- THA- LENES (UG/L)	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL CHLOR- DANE (UG/L)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDD (UG/L)	DDD IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDE (UG/L)	DDE IN BOTTOM MA- TERIAL (UG/KG)	
NOV 11...	1405	.0	0	--	.00	.0	0	.00	.0	.00	.0	
APR 20...	1045	.0	0	.00	.00	.0	0	.00	.0	.00	.0	
JUL 20...	0843	.0	--	.00	.00	--	.0	--	.00	--	.00	
		DDT IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	DI- ELDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ETHION (UG/L)	TOTAL HEPTA- CHLOR (UG/L)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG)
NOV 11...	.00	.0	.00	.00	.0	.00	.0	.00	.00	.0	.00	.0
APR 20...	.00	.0	.00	.00	.0	.00	.0	.00	.00	.0	.00	.0
JUL 20...	.00	--	.00	.00	--	.00	--	.00	.00	--	.00	--
		LINDANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL TOX- APHENE (UG/L)	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
NOV 11...	.00	.0	.00	.00	.00	.00	0	0	.00	.00	.00	.00
APR 20...	.00	.0	.00	.00	.00	.00	0	0	.00	.00	.00	.00
JUL 20...	.00	--	.00	.00	.00	.00	0	--	.00	.00	.00	.00

MISSION RIVER BASIN

367

08189300 Medio Creek near Beeville, Tex.

LOCATION.--Lat 28°28'58", long 97°39'23", Bee County, on left bank at downstream side of bridge on U.S. Highway 59, 8 miles (13 km) north-east of Beeville, and 9 miles (14 km) upstream from Parker Hollow Creek.

DRAINAGE AREA.--204 mi² (528 km²).

PERIOD OF RECORD.--March 1962 to current year.

GAGE.--Water-stage recorder. Concrete control since Aug. 27, 1976. Datum of gage is 163.00 ft (49.682 m) above mean sea level.

AVERAGE DISCHARGE.--14 years, 19.9 ft³/s (0.564 m³/s), 14,420 acre-ft/yr (17.8 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 3,440 ft³/s (97.4 m³/s) Apr. 30 (gage height, 15.08 ft or 4.596 m); no flow at times.
 Period of record: Maximum discharge, 105,000 ft³/s (2,970 m³/s) Sept. 22, 1967 (gage height, 38.68 ft or 11.790 m, from floodmark), from rating curve extended above 30,000 ft³/s (850 m³/s) on basis of slope-area measurement of peak flow; no flow at times each year.
 Maximum stage since at least 1914, that of Sept. 22, 1967. A stage of about 31 ft or 9.4 m (discharge, 25,500 ft³/s or 722 m³/s) occurred in September 1919, from information by local resident.

REMARKS.--Records fair prior to Aug. 27 and good thereafter except those for period of no gage-height record, which are poor.

DISCHARGE* IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	.02	.04	.16	.24	.24	.10	70	2.5	0	0	0
2	0	.55	.02	.16	.24	.28	.08	44	2.3	0	0	0
3	0	2.2	.02	.11	.25	.21	.09	32	1.3	0	0	0
4	0	.33	.10	.10	.26	.15	.69	25	.92	0	0	0
5	0	.09	.10	.10	.34	.10	1.1	21	.64	0	0	0
6	0	.05	.10	.10	.30	.07	.65	18	.54	.99	0	0
7	0	.05	.08	.10	.24	.06	.39	18	.51	.36	0	0
8	0	.05	.08	.10	.24	.12	.48	159	.45	4.0	0	0
9	0	.05	.08	.10	.29	.10	.25	41	.34	5.1	0	0
10	0	.05	.06	.13	.34	.10	.23	23	.25	3.6	0	0
11	0	.02	.06	.16	.34	.10	.16	16	.18	9.8	0	0
12	0	0	.06	.16	.37	.12	.10	13	.11	9.5	0	0
13	0	0	.04	.18	.34	.10	.21	72	.06	11	0	0
14	0	0	.04	.16	.39	.10	.16	102	.01	13	0	0
15	0	0	.04	.16	.41	.12	.15	31	0	5.9	0	0
16	0	0	.16	.21	.36	.10	.23	18	0	3.4	0	0
17	0	0	.16	.18	.41	.10	.16	11	0	2.7	0	0
18	0	.16	.16	.18	.46	.13	25	8.1	0	1.8	.08	0
19	0	.16	.16	.21	.37	.24	722	6.9	0	1.1	.28	0
20	0	.16	.16	.33	.42	.24	57	7.7	0	.49	.16	302
21	0	.10	.16	.33	.38	.15	29	7.8	0	.34	.06	851
22	0	.10	.16	.28	.24	.10	18	5.5	0	.21	.03	76
23	0	.10	.16	.29	.24	.10	12	4.8	0	.13	.02	22
24	0	.08	40	.35	.27	.13	7.6	4.6	0	.09	.05	12
25	.01	.08	25	.56	.28	.16	5.1	4.2	0	.06	0	7.4
26	.31	.08	5.1	.22	.30	.16	3.6	4.2	0	.02	0	5.9
27	.29	.06	1.7	.12	.24	.12	1.4	4.0	0	0	0	21
28	.12	.06	.71	.20	.24	.10	.60	2.8	0	0	0	46
29	.07	.04	.30	.24	.23	.12	987	2.1	0	0	0	32
30	.06	.04	.16	.30	---	.10	1300	1.9	0	0	0	21
31	.02	---	.16	.29	---	.10	---	1.6	---	0	0	---
TOTAL	.98	4.68	75.33	6.27	9.03	4.12	3073.53	780.2	10.11	73.59	.68	1396.3
MEAN	.028	.16	2.43	.20	.31	.13	102	25.2	.34	2.37	.022	46.5
MAX	.31	2.2	40	.56	.46	.28	1300	159	2.5	13	.28	851
MIN	0	0	.02	.10	.23	.06	.08	1.6	0	0	0	0
CFSM	0	0	.01	0	.001	0	.50	.12	.001	.01	0	.23
IN.	.0002	.0009	.01	.001	.002	.0008	.56	.14	.002	.01	.0001	.25
AC-FT	1.7	9.3	149	12	18	8.2	6100	1550	20	146	1.3	2770
CAL YR 1975 TOTAL	227.99			MEAN .62	MAX 40	MIN 0	CFSM .003	IN .04	AC-FT 452			
WTR YR 1976 TOTAL	5434.72			MEAN 14.8	MAX 1300	MIN 0	CFSM .07	IN .99	AC-FT 10780			

PEAK DISCHARGE (BASE, 500 FT³/S)

DATE	TIME	G.H.T.	DISCHARGE
4-19	0400	11.89	1,550
4-30	0100	15.08	3,440
9-21	0200	12.28	1,730

NOTE.--No gage-height record Nov. 11 to Dec. 21.

MISSION RIVER BASIN

08189500 Mission River at Refugio, Tex.

LOCATION.--Lat 28°17'30", long 97°16'44", Refugio County, on left bank at upstream side of upstream bridge of two bridges on U.S. Highway 77, 560 ft (171 m) upstream from Missouri Pacific Railroad Co. bridge, and 0.2 mile (0.3 km) southwest of Refugio.

DRAINAGE AREA.--690 mi² (1,787 km²).

PERIOD OF RECORD.--Discharge: July 1939 to current year.

Water quality: Chemical analyses: September 1961 to current year. Chemical and biochemical analyses: January 1968 to current year. Water temperatures: November 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1.00 ft (0.305 m) above mean sea level. Prior to Nov. 25, 1958, nonrecording gage at site 59 ft (18 m) downstream at same datum. Nov. 26, 1958, to Apr. 18, 1963, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--37 years, 113 ft³/s (3,200 m³/s), 2.22 in/yr (56 mm/yr), 81,870 acre-ft/yr (101 hm³/yr).

EXTREMES.--Discharge: Current year: Maximum discharge, 10,100 ft³/s (286 m³/s) July 12 (gage height, 27.92 ft or 8.510 m); minimum, 6.2 ft³/s (0.18 m³/s) Oct. 14, 20-22.

Period of record: Maximum discharge, 79,000 ft³/s (2,240 m³/s) Sept. 12, 1971 (gage height, 38.25 ft or 11.659 m); minimum observed, 0.7 ft³/s (0.02 m³/s) Oct. 7, 9, 1940, Aug. 18-20, Sept. 5, 1945, Dec. 29, 31, 1949, Jan. 1, 1950, July 13, Aug. 28, 1963, July 18, 19, 22-26, 31, Aug. 1, 2, 1971.

Historic: Maximum stage since about 1899, that of Sept. 12, 1971. Flood of Sept. 21, 1967, reached a stage of 36.5 ft or 11.13 m (discharge, 60,200 ft³/s or 1,700 m³/s). Flood of July 7, 1942, reached a stage of 33.3 ft or 10.15 m (discharge, 41,700 ft³/s or 1,180 m³/s). Floods in August 1914 and May 17, 1938, reached a stage of 32.3 ft (9.85 m), from information by local residents. Flood of May 13, 1972, reached a stage of 28.25 ft (8.611 m).

Water quality: Current year: Maximum daily specific conductance, 6,430 micromhos Oct. 25; minimum daily, 103 micromhos May 22.

Maximum water temperatures, 30.5°C on several days during June, July, and September; minimum, 9.0°C Nov. 23.

Period of record: Maximum daily specific conductance, 100,000 micromhos Nov. 28, 1965; minimum daily, 85 micromhos Sept. 13, 1971.

Maximum water temperatures, 37.0°C May 12, 1967; minimum, 1.0°C Jan. 11, 1973.

REMARKS.--Discharge records good. Several small diversions above station.

REVISIONS (WATER YEARS).--WSP 1923: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.3	8.7	11	58	17	11	8.3	2330	49	15	50	28
2	8.3	6.8	11	52	16	11	8.3	372	45	15	47	30
3	7.6	35	11	55	16	11	8.1	169	41	14	45	29
4	7.2	23	9.8	45	16	11	8.7	109	38	15	42	28
5	6.8	16	9.8	42	16	11	11	81	35	16	41	26
6	6.5	15	9.8	40	16	11	36	66	33	159	39	24
7	6.5	14	9.8	34	15	13	78	59	31	343	38	23
8	6.5	11	9.0	32	15	11	37	55	29	218	36	23
9	6.5	8.7	8.7	29	15	11	41	103	28	912	35	23
10	6.5	7.6	8.7	29	15	11	51	95	26	1570	34	22
11	6.5	6.9	8.7	27	15	10	26	59	26	5430	33	22
12	6.5	7.7	8.7	26	15	10	18	47	25	9270	33	23
13	6.5	9.3	8.7	25	15	9.8	15	52	24	4590	32	24
14	6.2	9.8	8.7	24	15	9.8	13	448	23	1530	31	23
15	11	9.8	9.8	23	15	9.7	13	321	22	2110	30	23
16	20	10	12	22	15	8.9	14	153	22	2180	30	25
17	13	11	22	21	15	8.7	11	84	22	1260	33	24
18	9.0	14	9.8	20	14	8.7	9.7	57	20	433	44	22
19	6.8	13	11	20	13	8.7	1430	44	21	238	35	66
20	6.2	11	9.8	20	13	8.4	3210	374	19	167	29	82
21	6.2	9.7	9.8	20	13	8.1	876	3040	18	134	29	172
22	6.2	7.5	11	20	12	8.0	292	4200	18	116	28	1080
23	7.0	7.1	11	20	12	8.4	151	1130	17	106	27	318
24	8.7	7.2	9.8	20	12	8.7	97	292	17	94	26	123
25	11	7.6	2370	20	12	9.1	72	165	17	84	26	74
26	49	7.9	3590	19	12	9.6	57	152	19	77	26	55
27	37	7.9	771	17	12	9.4	47	116	18	71	25	54
28	36	7.9	229	17	12	8.7	39	88	17	65	25	50
29	15	9.0	142	17	11	9.0	45	72	16	60	25	70
30	12	8.7	135	17	---	8.7	1860	61	15	56	25	69
31	9.8	---	86	17	---	8.4	---	53	---	53	26	---
TOTAL	361.2	328.8	7660.6	848	410	300.8	8583.1	15347	751	31401	1025	2655
MEAN	11.7	11.6	247	27.4	14.1	9.70	286	495	25.0	1013	33.1	88.5
MAX	49	35	3590	58	17	13	3210	4200	49	9270	50	1080
MIN	6.2	6.8	8.7	17	11	8.0	8.1	44	15	14	25	22
CFSM	.02	.02	.36	.04	.02	.01	.41	.72	.04	1.47	.05	.13
IN.	.02	.02	.41	.05	.02	.02	.46	.83	.04	1.69	.06	.14
AC-FT	716	652	15190	1680	813	597	17020	30440	1490	62280	2030	5270

CAL YR 1975 TOTAL 14531.2 MEAN 39.8 MAX 3590 MIN 5.0 CFSM .06 IN .78 AC-FT 28820
WTR YR 1976 TOTAL 69671.5 MEAN 190 MAX 9270 MIN 6.2 CFSM .28 IN 3.76 AC-FT 138200

PEAK DISCHARGE (BASE, 1,000 FT³/S)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
12-26	0600	21.7	4,270	7-9	1700	11.47	1,100
4-20	0800	20.51	3,800	7-12	0800	27.92	10,100
5-1	0300	19.50	3,420	7-15	2000	17.99	2,400
5-22	0100	23.13	5,010	9-22	0800	12.53	1,350

a From high-water mark.

08189500 Mission River at Refugio, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)	HARD- NESS (CA+MG) (MG/L)
OCT 07...	1000	11	3980	8.1	20.5	--	--	--	--	--	490
NOV 19...	1530	16	3730	7.9	22.5	10	9	10.7	122	2.1	460
DEC 04...	1615	15	4410	7.9	20.0	--	--	--	--	--	550
JAN 21...	1530	19	2810	7.8	15.0	20	7	11.5	113	1.5	450
FEB 25...	0930	18	3800	8.0	15.5	--	--	--	--	--	450
MAR 24...	1540	14	2680	7.8	21.0	25	15	9.6	107	1.4	470
APR 19...	1430	2050	228	7.9	23.0	--	--	--	--	--	75
MAY 26...	1700	120	688	7.3	26.0	130	75	5.8	70	5.6	200
JUN 22...	1300	20	2760	7.9	29.0	--	--	--	--	--	420
JUL 22...	1555	135	1490	7.4	28.5	60	20	6.8	88	2.0	330
AUG 03...	1312	46	2310	8.1	28.0	--	--	--	--	--	410
SEP 23...	1025	320	305	7.5	25.0	160	120	6.5	80	2.0	83

DATE	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)
OCT 07...	240	150	28	660	13	5.6	300	0	31	1200	.4
NOV 19...	210	140	27	620	13	5.5	308	0	42	1000	.3
DEC 04...	400	170	30	740	14	5.5	184	0	50	1400	.4
JAN 21...	160	140	24	410	8.4	4.1	356	0	37	700	.4
FEB 25...	220	130	31	640	13	5.0	286	0	45	1100	.4
MAR 24...	210	140	28	400	8.1	3.8	308	0	48	720	.6
APR 19...	6	26	2.4	13	.7	4.2	84	0	6.3	22	.3
MAY 26...	42	68	8.3	68	2.1	4.0	198	0	13	120	.2
JUN 22...	140	130	23	420	8.9	4.0	343	0	30	730	.4
JUL 22...	82	110	14	200	4.8	3.6	307	0	22	350	.4
AUG 03...	110	130	20	320	6.9	3.5	368	0	26	550	.4
SEP 23...	5	28	3.2	24	1.1	6.0	95	0	5.9	41	.2

MISSION RIVER BASIN

08189500 Mission River at Refugio, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED SILICA (SIOP) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NON- FILT- RABLE RESIDUE (MG/L)	VOL. NON- FILT- RABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
OCT 07...	40	2260	--	--	--	--	--	--	--	--
NOV 19...	35	2020	8	1	.05	.01	.12	.68	.04	4.2
DEC 04...	40	2530	--	--	--	--	--	--	--	--
JAN 21...	37	1530	15	0	.04	.01	.10	.81	.02	3.6
FEB 25...	39	2130	--	--	--	--	--	--	--	--
MAR 24...	40	1530	46	10	.06	.01	.06	.57	.03	4.6
APR 19...	10	126	--	--	--	--	--	--	--	--
MAY 26...	25	405	228	26	.13	.01	.08	.92	.07	11
JUN 22...	44	1550	--	--	--	--	--	--	--	--
JUL 22...	38	892	42	4	.11	.01	.04	.77	.03	6.2
AUG 03...	44	1280	--	--	--	--	--	--	--	--
SEP 23...	14	169	244	28	.14	.02	.09	.82	.09	10

DATE	TIME	DIS- SOLVED ALUM- INUM (AL) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)
JAN. 21...	1530	30	6	780	0	0	0	2
MAR. 24...	1540	10	6	710	0	0	0	0
MAY 26...	1700	80	5	210	0	3	0	3
JULY 22...	1555	10	7	460	0	0	0	2

DATE	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)
JAN. 21...	0	0	70	100	.1	0	3400	20
MAR. 24...	0	0	70	100	.2	0	280	20
MAY 26...	120	0	10	10	.1	0	620	10
JULY 22...	20	1	30	140	.2	0	1500	0

08189500 Mission River at Refugio, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL PCB (UG/L)	PCB IN BOTTOM MA- TERIAL (UG/KG)	POLY- CHLO- RINATED NAPH- THA- LENES (UG/L)	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL CHLOR- DANE (UG/L)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDD (UG/L)	DDD IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDE (UG/L)	DDE IN BOTTOM MA- TERIAL (UG/KG)
JAN. 21...	1530	.0	0	--	.00	.0	.0	23	.00	5.7	.00	13
MAR. 24...	1540	.0	0	.00	.00	.0	.0	1	.00	.0	.00	.0
MAY 26...	1700	--	0	--	--	.0	--	2	--	.2	--	.3
JULY 22...	1555	.0	0	.00	.00	.0	.0	5	.00	.5	.00	.4

DATE	TOTAL DDT (UG/L)	DDT IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	DI- ELDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ETHION (UG/L)	TOTAL HEPTA- CHLOR (UG/L)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG)
JAN. 21...	.00	9.2	.00	.00	.1	.00	.0	.00	.00	.0	.00	.0
MAR. 24...	.00	.0	.00	.00	.0	.00	.0	.00	.00	.0	.00	.0
MAY 26...	--	.5	--	--	.0	--	.0	--	--	.0	--	.0
JULY 22...	.00	.6	.00	.00	.6	.00	.0	.00	.00	.0	.00	.0

DATE	TOTAL LINDANE (UG/L)	LINDANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL TOX- APHENE (UG/L)	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
JAN. 21...	.00	.0	.00	.00	.00	.00	.0	0	.00	.00	.00	.00
MAR. 24...	.00	.0	.00	.00	.00	.00	0	0	.00	.00	.00	.00
MAY 26...	--	.0	--	--	--	--	--	0	--	--	--	--
JULY 22...	.00	.0	.00	.00	.00	.00	0	0	.00	.00	.00	.00

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

MONTH	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT. 1975.....	361.2	3090	1740	1700	860	840	37	36	450
NOV. 1975.....	328.8	3460	1950	1730	980	869	40	35	470
DEC. 1975.....	7660.6	387	210	4270	68	1410	8	156	120
JAN. 1976.....	848	2240	1260	2880	560	1280	30	69	390
FEB. 1976.....	399	3160	1780	1920	870	939	39	42	450
MAR. 1976.....	300.8	2700	1520	1230	710	573	36	29	420
APR. 1976.....	8583.1	324	170	3920	45	1030	7	160	100
MAY 1976.....	15347	254	130	5380	27	1280	6	252	85
JUNE 1976.....	751	2100	1180	2390	500	1010	29	58	380
JULY 1976.....	31401	232	120	9980	22	1980	6	485	79
AUG. 1976.....	1025	2450	1280	3810	620	1710	33	92	400
SEPT 1976.....	2655	970	540	3850	220	1550	15	108	280
TOTAL	69660.43	**	**	43100	**	14500	**	1520	**
WTD.AVG.	190.85	425	230	**	76	**	6.3	**	130

MISSION RIVER BASIN

08189500 Mission River at Refugio, Tex.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3280	3780	4420	1430	2460	3690	2550	199	2030	2170	2320	2280
2	2910	4000	4490	1550	2460	3830	2740	230	1700	2050	2320	1900
3	3300	1870	4370	1630	2660	3340	2810	464	1670	3520	2310	2060
4	3770	2000	4350	1860	2670	2470	2870	684	1890	2500	2310	2310
5	3890	1730	4430	1780	2570	2440	2600	917	1910	2120	2330	2530
6	4020	2550	4410	1810	2600	2540	2390	1080	1940	1200	2370	2770
7	4050	2650	4400	1990	2660	2520	1280	1140	1990	450	2400	2800
8	4050	2800	4540	2000	2690	2510	1710	1150	1990	425	2350	2830
9	4110	3310	4370	2170	2620	2320	1050	700	2030	215	2340	2870
10	4070	3550	4600	2370	2730	2350	925	1220	2070	269	2440	2980
11	4520	3830	4540	2350	2660	2430	1230	1320	2100	157	2420	2810
12	4370	3900	4630	2530	3210	2670	1560	1330	2120	119	2490	2690
13	4280	4050	4680	2600	3360	2520	1780	1280	2120	151	2510	3410
14	4320	4160	4800	2520	3420	2500	1810	247	2170	200	2560	2660
15	3760	4320	4900	2640	3520	2520	1960	430	2260	151	2570	2590
16	3120	4510	4270	2700	3500	2550	2080	629	2030	157	2630	2380
17	2870	4530	4170	2700	3480	2440	2080	703	2280	180	2580	2460
18	3540	4400	3720	2800	3520	2640	2060	853	2510	400	2340	2650
19	4130	3730	4270	2860	3510	2600	229	1070	1890	723	2100	2830
20	4250	4000	4400	2690	3650	2550	187	363	2230	1160	2400	1160
21	4520	4000	4960	2810	3400	2580	256	123	2100	1400	2550	1640
22	4450	4090	5240	2680	3600	2680	311	103	2560	1490	2570	292
23	4420	4200	4600	2820	3700	2690	470	150	2350	1600	2620	305
24	4650	4350	2000	2690	3860	2680	645	349	2610	1790	2580	603
25	6430	3510	218	2450	3860	2750	825	593	2260	1870	2540	927
26	1400	4430	158	2360	3850	2680	1000	688	3400	1950	2600	1000
27	1520	4640	245	2460	3840	2830	1220	1010	2230	2000	2690	1240
28	2210	4690	411	2840	3830	2800	1340	1160	2150	2040	2690	1260
29	2590	4670	658	3050	3970	2810	1280	1350	2260	2150	2510	935
30	2990	4690	946	3140	---	2770	242	1450	2100	2200	2560	946
31	3480	---	1210	2650	---	2740	---	1670	---	2240	2620	---
MONTH	3720	3760	3530	2420	3240	2690	1450	795	2170	1260	2470	2000

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26.5	21.5	14.5	16.5	13.5	23.0	21.5	20.0	25.5	30.5	26.5	24.5
2	26.0	22.0	15.0	18.0	14.5	24.0	22.0	---	28.0	26.5	26.5	29.0
3	---	20.5	15.5	15.0	18.0	24.0	21.5	23.0	28.0	26.0	26.5	---
4	23.5	23.5	20.0	11.5	17.0	24.5	21.0	23.5	28.0	30.5	29.5	28.0
5	19.5	22.0	20.5	11.0	19.0	23.5	---	24.0	---	28.0	29.5	30.5
6	18.5	21.5	---	15.0	---	14.0	22.0	25.5	24.5	26.0	---	29.0
7	20.5	24.0	16.0	13.5	11.0	---	20.0	26.0	27.0	24.0	26.5	27.0
8	21.5	---	14.5	10.0	16.5	19.0	21.0	25.5	28.5	26.0	26.0	29.0
9	23.0	23.5	15.0	12.0	19.0	20.5	24.0	---	26.5	24.5	26.0	29.5
10	26.5	23.5	15.5	15.0	17.0	21.0	---	23.5	25.0	24.5	30.0	25.5
11	26.5	23.5	16.5	15.0	18.5	21.5	25.5	25.0	29.5	25.5	29.0	26.0
12	24.0	19.0	19.0	18.0	21.0	21.5	24.5	27.0	26.5	26.0	28.5	25.5
13	26.0	15.5	20.0	19.0	18.0	18.0	25.0	24.5	26.0	27.0	26.5	27.0
14	25.5	---	---	16.5	21.5	---	25.0	22.0	29.5	24.5	28.0	26.5
15	24.5	17.0	18.0	15.5	20.0	16.5	24.5	24.5	30.0	25.5	28.0	27.0
16	23.0	17.0	13.0	14.5	22.0	17.0	24.0	25.0	30.0	27.0	26.5	28.5
17	25.0	18.5	13.0	15.5	26.0	19.5	---	24.5	29.5	29.0	26.5	28.0
18	21.5	21.5	10.5	---	---	21.0	23.5	22.0	29.0	---	25.5	25.5
19	19.0	20.5	9.5	15.0	24.0	---	23.0	23.5	28.0	28.0	24.5	26.0
20	---	17.0	---	14.0	20.0	21.0	21.5	21.0	26.5	29.0	25.5	26.0
21	20.5	15.0	13.0	15.5	19.5	20.0	25.5	20.5	30.0	27.0	26.0	24.5
22	23.0	13.5	11.0	---	14.5	20.0	25.5	24.0	27.0	---	26.0	25.5
23	25.0	9.0	---	15.0	17.0	20.0	25.5	---	28.0	28.0	25.5	26.5
24	24.5	13.5	---	15.5	15.0	21.5	24.5	26.0	30.5	29.0	25.5	27.0
25	21.5	14.5	13.5	19.0	15.5	24.0	24.0	26.0	28.5	29.0	28.5	27.0
26	---	13.5	13.5	14.5	20.5	24.5	25.0	25.5	26.5	29.0	28.0	---
27	21.0	11.0	11.5	11.5	---	21.5	25.0	26.5	27.0	29.5	25.0	25.0
28	24.0	18.5	13.0	14.0	21.5	20.0	24.5	26.0	30.5	29.5	26.0	26.0
29	23.5	21.5	12.0	15.5	20.5	25.0	23.5	27.0	30.0	29.0	25.0	25.0
30	20.0	19.5	12.0	16.5	---	---	20.5	---	30.5	29.5	27.0	24.0
31	24.0	---	15.0	16.0	---	20.5	---	27.0	---	27.0	28.0	---
MONTH	23.0	18.5	14.5	15.0	18.5	21.0	23.5	24.5	28.0	27.5	27.0	26.5

08189700 Aransas River near Skidmore, Tex.

LOCATION.--Lat 28°16'56", long 97°37'14", Bee County, on right bank 160 ft (49 m) downstream from centerline of county road bridge, 3.8 miles (6.1 km) downstream from confluence of West Aransas and Poesta Creeks, and 4.4 miles (7.1 km) northeast of Skidmore.

DRAINAGE AREA.--247 mi² (640 km²).

PERIOD OF RECORD.--Discharge: March 1964 to current year.

Water quality: Chemical analyses: October 1965 to September 1966. Sediment records: February 1966 to September 1975.

GAGE.--Water-stage recorder. Datum of gage is 72.37 ft (22.058 m) above mean sea level.

AVERAGE DISCHARGE.--12 years, 52.1 ft³/s (1.475 m³/s), 2.86 in/yr (73 mm/yr), 37,750 acre-ft/yr (46.5 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 1,090 ft³/s (30.9 m³/s) July 11 (gage height, 12.25 ft or 3.734 m); minimum, 1.2 ft³/s (0.034 m³/s) June 22-24.

Period of record: Maximum discharge, 82,800 ft³/s (2,340 m³/s) Sept. 22, 1967 (gage height, 42.22 ft or 12.869 m, from floodmark), from rating curve extended above 14,000 ft³/s (396 m³/s) on basis of slope-area measurements of 29,600 and 82,800 ft³/s (838 and 2,340 m³/s); no flow at times in 1964-67, 1971.

Maximum stage since at least 1914, that of Sept. 22, 1967. Flood of September 1954 reached a stage of 33 ft or 10.1 m (discharge, 19,600 ft³/s or 555 m³/s), from information by local resident.

REMARKS.--Discharge records good. No known diversion. Chase Field Naval Air Station and city of Beeville discharge sewage effluent into the stream via Poesta Creek.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	3.3	2.7	3.6	2.1	1.9	1.9	37	2.9	1.4	3.4	4.3
2	2.0	3.0	2.7	3.5	1.7	1.9	1.9	15	3.1	1.3	3.2	3.9
3	2.0	5.5	2.5	3.0	1.4	1.9	1.8	8.8	3.0	1.6	2.7	3.0
4	1.8	15	2.5	2.6	1.4	1.9	2.3	5.9	2.9	1.6	2.6	2.7
5	1.6	7.1	2.6	2.3	1.9	2.0	5.7	5.0	2.8	1.5	2.6	2.4
6	1.6	3.7	2.9	2.4	2.2	2.0	22	4.2	2.5	37	2.6	2.9
7	1.4	3.0	2.7	2.6	2.0	2.0	11	4.6	2.4	205	2.5	2.4
8	1.4	3.0	2.7	2.7	1.7	2.2	5.9	8.3	2.3	70	2.5	2.1
9	1.7	2.8	2.5	2.4	1.7	2.0	4.9	9.7	2.2	41	2.2	2.2
10	1.9	2.6	2.4	2.6	1.8	1.7	3.9	4.6	2.2	237	1.9	2.2
11	1.9	2.7	2.4	2.2	2.9	1.9	3.5	3.6	2.3	873	1.8	2.1
12	1.9	2.5	2.5	2.2	2.6	2.2	3.0	3.2	2.2	183	1.9	2.1
13	1.9	2.4	2.5	2.1	2.6	2.7	3.6	55	2.2	217	2.0	2.2
14	1.6	2.2	2.5	2.2	2.7	2.8	3.4	57	2.1	143	1.8	2.2
15	1.7	2.2	2.6	2.2	2.5	2.7	4.3	18	2.0	407	1.8	2.9
16	2.8	2.3	13	2.1	2.3	2.2	4.1	8.8	1.9	131	1.7	3.2
17	11	2.6	15	2.0	2.3	2.0	3.5	5.3	1.9	50	2.2	3.5
18	4.4	2.8	7.0	1.9	2.1	3.4	4.4	3.7	1.9	23	8.6	3.0
19	2.8	2.9	3.9	1.7	2.1	3.7	11	3.3	1.9	13	19	2.4
20	2.2	3.0	3.5	2.0	2.8	3.1	17	10	1.9	9.9	9.8	63
21	1.9	2.9	3.3	2.0	2.5	2.5	8.4	14	1.8	8.9	6.9	221
22	1.9	2.7	3.6	1.9	2.1	2.0	8.1	13	1.4	7.7	6.4	43
23	1.9	2.6	3.6	2.0	1.7	2.1	4.6	5.6	1.2	6.6	4.3	17
24	1.9	2.5	4.1	2.0	1.6	2.2	3.6	3.6	1.4	5.9	2.8	9.4
25	2.6	2.5	349	2.2	1.5	2.6	18	2.9	1.8	5.7	2.5	6.6
26	4.0	2.7	39	2.2	1.5	2.3	22	24	2.1	5.0	2.5	5.4
27	16	2.8	14	2.0	2.0	2.5	8.6	32	2.1	4.9	2.4	6.8
28	7.6	2.8	8.4	2.0	2.2	2.4	5.0	12	2.0	4.4	7.2	34
29	3.7	2.7	6.2	1.9	2.3	2.3	64	6.0	1.9	3.9	4.6	17
30	3.0	2.8	4.7	1.7	---	2.2	186	4.0	1.6	3.6	3.7	8.4
31	3.2	---	4.1	2.0	---	2.1	---	3.3	---	3.5	5.9	---
TOTAL	97.1	101.6	521.0	70.2	60.5	71.4	447.4	391.4	63.9	2707.4	126.0	483.3
MEAN	3.13	3.39	16.8	2.26	2.09	2.30	14.9	12.6	2.13	87.3	4.06	16.1
MAX	16	15	349	3.6	2.9	3.7	186	57	3.1	873	19	221
MIN	1.4	2.2	2.4	1.7	1.4	1.7	1.8	2.9	1.2	1.3	1.7	2.1
CFSM	.01	.01	.07	.009	.008	.009	.06	.05	.008	.35	.02	.07
IN.	.01	.02	.08	.01	.009	.01	.07	.06	.010	.41	.02	.07
AC-FT	193	202	1030	139	120	142	887	776	127	5370	250	959

CAL YR 1975 TOTAL 1810.7 MEAN 4.96 MAX 349 MIN 1.1 CFSM .02 IN .27 AC-FT 3590
WTR YR 1976 TOTAL 5141.2 MEAN 14.0 MAX 873 MIN 1.2 CFSM .06 IN .77 AC-FT 10200

PEAK DISCHARGE (BASE, 500 FT³/S).--Dec. 25 (0500) 800 ft³/s (10.92 ft); July 11 (0700) 1,090 ft³/s (12.25 ft).

08189800 Chiltipin Creek at Sinton, Tex.

LOCATION.--Lat 28°02'48", long 97°30'13", San Patricio County, on left bank at upstream end of bridge on U.S. Highway 77, 0.2 mile (0.3 km) upstream from Missouri Pacific Railroad bridge, and 0.8 mile (1.3 km) northeast of Sinton.

DRAINAGE AREA.--128 mi² (332 km²).

PERIOD OF RECORD.--Discharge: July 1970 to current year.

Water quality: Chemical analyses: October 1968 to current year. Biochemical analyses: October 1969 to current year. Pesticide analyses: October 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is 18.74 ft (5.712 m) above mean sea level.

AVERAGE DISCHARGE.--6 years, 55.8 ft³/s (1.580 m³/s), 5.92 in/yr (150 mm/yr), 40,430 acre-ft/yr (49.9 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 3,880 ft³/s (110 m³/s) July 15 (gage height, 14.75 ft or 4.496 m); no flow for part of many days.

Period of record: Maximum discharge, 22,300 ft³/s (632 m³/s) Sept. 12, 1971 (gage height, 29.10 ft or 8.870 m), from rating curve extended above 13,400 ft³/s (379 m³/s); no flow for part of several days in 1973, 1975, and 1976.

Maximum stages since 1910, 30.27 ft (9.226 m) Sept. 22, 1967, and 28.8 ft (8.78 m) in April 1930, from information by local residents.

REMARKS.--Discharge records good except those for periods of no gage-height record, which are poor. No known diversions above station. An undetermined amount of water from oilfield operations enters stream upstream at various points. A recording rain gage is located at station.

REVISIONS (WATER YEARS).--WRD Texas 1972: 1971(P).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.13	.50	.25	.09	.07	.06	.03	30	23	.17	.45	.19
2	.12	2.0	.23	.09	.07	.05	.04	15	10	.24	.40	.08
3	.12	5.0	.22	.09	.07	.04	.05	13	5.4	.24	.37	.04
4	.12	6.0	.20	.15	.07	.04	.07	4.3	3.0	.21	.34	.05
5	.12	5.0	.19	.10	.07	.04	.10	1.8	1.8	.21	.31	.04
6	.11	4.5	.17	.09	.07	.03	.06	.96	1.1	.23	.29	.05
7	.11	4.0	.16	.08	.06	.05	.03	2.7	.77	.57	.27	.05
8	.35	3.5	.14	.08	.06	.04	.06	.50	.42	2.5	.25	.05
9	.37	3.0	.13	.08	.06	.04	.04	.40	.29	115	.23	.07
10	.38	2.5	.12	.08	.06	.05	.03	.36	.24	496	.21	.07
11	.39	2.0	.11	.08	.06	.07	.03	.31	.23	2780	.20	.07
12	.33	1.1	.10	.08	.06	.06	.03	.28	.21	1050	.18	1.1
13	.40	.75	.10	.08	.06	.06	.12	19	.16	435	.17	.12
14	.50	.69	.15	.07	.06	.03	.04	18	.15	1580	.16	.08
15	1.0	.64	.20	.07	.06	.04	.05	34	.14	3660	.15	.07
16	1.5	.59	.17	.07	.06	.03	.04	28	.16	2150	.14	.08
17	2.0	.60	.15	.07	.06	.03	.04	12	.17	600	.13	.09
18	1.0	.58	.08	.07	.06	.04	.03	2.4	.19	225	.12	.09
19	.80	.58	.08	.07	.06	.06	.03	.91	.21	116	.11	15
20	.60	.58	.09	.10	.08	.03	18	143	.94	53	.10	20
21	.45	.56	.09	.09	.03	.02	2.3	107	.23	22	.10	11
22	.30	.54	.10	.08	.03	.03	2.7	100	.18	10	.09	5.4
23	.30	.52	.09	.07	.05	.04	3.5	82	.16	4.3	.09	3.6
24	.50	.48	4.0	.07	.05	.04	4.5	90	.14	1.8	.08	1.6
25	2.5	.44	1.0	.07	.05	.05	9.9	67	1.7	.94	.08	.72
26	1.5	.40	.20	.07	.05	.06	5.2	91	1.0	.88	.07	7.0
27	1.0	.36	.15	.07	.03	.03	5.0	95	.25	.72	.07	37
28	.80	.32	.10	.07	.03	.05	2.3	92	.22	.65	.07	16
29	.60	.29	.10	.07	.04	.06	13	94	.19	.60	.06	6.8
30	.60	.26	.09	.07	---	.04	37	97	.18	.55	.06	2.4
31	.50	---	.09	.07	---	.03	---	53	---	.50	4.7	---
TOTAL	19.50	48.28	9.05	2.49	1.64	1.34	104.32	1294.92	52.83	13307.31	10.05	128.91
MEAN	.63	1.61	.29	.080	.057	.043	3.48	41.8	1.76	429	.32	4.30
MAX	2.5	6.0	4.0	.15	.08	.07	37	143	23	3660	4.7	.37
MIN	.11	.26	.08	.07	.03	.02	.03	.28	.14	.17	.06	.03
CFSM	.004	.01	.002	0	0	0	.03	.33	.01	3.35	.002	.04
IN.	.006	.01	.003	.0007	.0005	.0004	.03	.38	.02	3.87	.003	.04
AC-FT	39	96	18	4.9	3.3	2.7	207	2570	105	26400	20	256

CAL YR 1975 TOTAL 4807.55 MEAN 13.2 MAX 559 MIN .01 CFSM .10 IN 1.40 AC-FT 9540
WTR YR 1976 TOTAL 14980.64 MEAN 40.9 MAX 3660 MIN .02 CFSM .32 IN 4.35 AC-FT 29710

PEAK DISCHARGE (BASE, 600 FT³/S).--July 11 (0800) 3,280 ft³/s (13.23 ft, from floodmark); July 15 (0700) 3,880 ft³/s (14.75 ft).

NOTE.--No gage-height record Oct. 13 to Nov. 10, Nov. 21 to Dec. 17, Dec. 24 to Feb. 19, and July 28 to Aug. 29.

08189800 Chiltipin Creek at Sinton, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)
OCT. 07...	1115	.11	10100	8.6	25.0	5	4.9	60	5.0	1400	1300
NOV. 11...	1040	2.1	1380	7.6	23.0	100	8.6	99	2.0	200	140
DEC. 17...	1450	.17	9470	8.2	20.0	6	14.0	152	3.6	1100	990
FEB. 03...	1240	.07	23200	8.1	24.0	15	11.4	134	7.5	2700	2500
MAR. 19...	1255	.07	16800	7.8	26.0	10	10.3	134	5.8	1700	1600
APR. 27...	1210	5.3	974	7.4	26.0	350	7.6	93	3.8	130	75
JUNE 08...	1230	.48	3320	8.4	31.0	20	9.8	134	>8.0	440	340
JULY 19...	1740	100	255	7.2	31.5	35	7.0	95	2.5	50	0
AUG. 30...	1555	.06	5140	8.1	31.0	15	15.4	208	4.0	260	0

DATE	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	BROMIDE (BR) (MG/L)
OCT. 07...	430	91	1600	18	19	126	16	120	3200	--	--
NOV. 11...	61	12	200	6.1	11	78	0	15	400	.3	1.9
DEC. 17...	340	63	1700	22	13	142	0	50	3200	.3	--
FEB. 03...	770	180	4500	38	20	180	0	160	8600	1.0	--
MAR. 19...	490	120	3300	35	13	221	0	75	6300	1.4	32
APR. 27...	40	7.5	140	5.3	7.8	68	0	9.4	260	.4	--
JUNE 08...	130	28	520	11	11	118	0	28	1000	.4	--
JULY 19...	15	3.1	27	1.7	8.5	70	0	5.2	46	.2	.4
AUG. 30...	67	22	1000	27	7.8	394	6	21	1500	1.4	--

DATE	IODIDE (I) (MG/L)	DIS- SOLVED SILICA (SI02) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NON- FILT- RABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
OCT. 07...	--	16	5550	22	.00	.00	.05	1.4	.31	17
NOV. 11...	.15	25	767	260	.12	.01	.09	1.1	.74	12
DEC. 17...	--	9.1	5450	21	.08	.01	.21	.53	.19	--
FEB. 03...	--	1.3	14300	60	.00	.00	.43	.87	.17	13
MAR. 19...	1.5	7.3	10500	22	.01	.00	.04	.76	.10	19
APR. 27...	--	19	518	632	.17	.07	.29	1.1	.63	6.7
JUNE 08...	--	21	1800	42	.00	.00	.07	1.8	.38	12
JULY 19...	.01	23	163	68	.00	.01	.01	.84	.48	7.4
AUG. 30...	--	10	2830	30	.00	.00	.08	1.0	.07	7.0

08189800 Chiltipin Creek at Sinton, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	DIS-SOLVED ALUM- INUM (AL) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED CAD- MIUM (CD) (UG/L)	DIS-SOLVED CHRO- MIUM (CR) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)
NOV. 11...	1040	0	25	410	0	0	0	4
MAR. 19...	1255	10	1	3200	0	0	3	2
JULY 19...	1740	20	17	140	0	0	0	4

DATE	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED STRONTIUM (SR) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
NOV. 11...	70	0	30	100	.0	0	1500	20
MAR. 19...	50	0	500	680	.4	0	20000	10
JULY 19...	100	0	10	10	.1	0	200	20

DATE	TIME	TOTAL PCB (UG/L)	PCR IN BOTTOM	POLY- CHLO- RINATED NAPH-	TOTAL ALORIN (UG/L)	ALDRIN IN BOTTOM	TOTAL CHLOR- DANE (UG/L)	CHLOR- DANE IN BOTTOM	TOTAL DDD (UG/L)	DDD IN BOTTOM	TOTAL DDE (UG/L)	DDE IN BOTTOM
			MA- TERIAL (UG/KG)	THA- LENES (UG/L)		MA- TERIAL (UG/KG)		MA- TERIAL (UG/KG)		MA- TERIAL (UG/KG)		MA- TERIAL (UG/KG)
NOV. 11...	1040	.0	0	--	.00	.0	.0	0	.00	.0	.00	.0
MAR. 19...	1255	.0	0	.00	.00	.0	.0	0	.00	.0	.00	.3
JULY 19...	1740	.0	0	.00	.00	.0	.0	1	.00	.0	.00	.3

DATE	TOTAL DDT (UG/L)	DDT IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	DI- ELDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ETHION (UG/L)	TOTAL HEPTA- CHLOR (UG/L)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG)
NOV. 11...	.00	.0	.00	.00	.0	.00	.0	.00	.00	.0	.00	.0
MAR. 19...	.00	.0	.01	.00	.0	.00	.0	.00	1.0	.0	.00	.0
JULY 19...	.00	.0	.00	.00	.2	.00	.0	.00	.00	.0	.00	.0

DATE	TOTAL LINDANE (UG/L)	LINDANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL TOX- APHENE (UG/L)	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
NOV. 11...	.00	.0	.00	.00	.00	.00	0	0	.00	.00	.00	.00
MAR. 19...	.00	.0	.02	.00	.00	.00	0	0	.00	.00	.00	.00
JULY 19...	.00	.0	.00	.00	.00	.00	0	0	.00	.00	.00	.00

08190000 Nueces River at Laguna, Tex.

LOCATION.--Lat 29°25'42", long 99°59'49", Uvalde County, on right bank 0.5 mile (0.8 km) downstream from Sycamore Creek, 1.0 mile (1.6 km) northeast of Laguna, and at mile 395.4 (636.2 km).

DRAINAGE AREA.--764 mi² (1,979 km²).

PERIOD OF RECORD.--Discharge: October 1923 to current year.

Water quality: Chemical, biochemical, and pesticide analyses: January 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,119.72 ft (341.291 m) above mean sea level. Prior to Jan. 26, 1925, nonrecording gage at site 2 miles (3 km) downstream at different datum.

AVERAGE DISCHARGE.--53 years, 149 ft³/s (4,220 m³/s), 2.65 in/yr (67 mm/yr), 108,000 acre-ft/yr (133 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 11,800 ft³/s (334 m³/s) July 15 (gage height, 10.28 ft or 3.133 m); minimum, 48 ft³/s (1.36 m³/s) Apr. 1, 2.

Period of record: Maximum discharge, 307,000 ft³/s (8,690 m³/s) Sept. 24, 1955 (gage height, 29.95 ft or 9.129 m, in gage well, 32.7 ft or 9.97 m, from floodmarks), from rating curve extended above 40,000 ft³/s (1,130 m³/s) on basis of float measurement of 110,000 ft³/s (3,120 m³/s) and slope-area measurements of 213,000 and 307,000 ft³/s (6,030 and 8,690 m³/s); minimum, 2.6 ft³/s (0.074 m³/s) Mar. 14-16, 1957.

Maximum stage since at least 1866, that of Sept. 24, 1955. Flood in June 1913 reached a stage of about 29 ft (8.8 m), discharge, 210,000 ft³/s (5,950 m³/s); flood of Sept. 21, 1923, reached a stage of about 26.5 ft (8.08 m), discharge, 160,000 ft³/s (4,530 m³/s); from information by local residents. Discharges based on rating curve mentioned above.

REMARKS.--Discharge records good. Many small diversions above station for irrigation.

REVISIONS (WATER YEARS).--WSP 1562: 1930, 1931(M), 1932, 1939.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	91	94	82	77	69	56	51	91	125	57	531	252
2	89	98	82	76	68	56	52	85	125	55	505	290
3	89	99	82	75	67	56	58	80	122	54	480	474
4	88	97	83	74	67	56	186	76	117	185	465	347
5	87	95	84	75	67	54	148	83	119	404	446	315
6	86	95	81	75	66	55	118	81	123	288	428	294
7	85	94	79	76	65	59	100	1400	119	237	409	278
8	83	92	78	77	66	59	89	447	113	218	392	267
9	83	91	79	76	66	59	83	301	108	286	376	260
10	83	90	78	76	66	58	79	243	105	433	363	252
11	83	89	80	76	66	59	76	213	103	498	351	245
12	81	87	80	75	65	58	74	318	101	522	342	238
13	79	87	80	74	64	57	72	277	99	1540	330	231
14	78	87	80	72	63	57	70	236	93	1520	322	234
15	78	87	81	71	61	56	72	208	90	1970	311	236
16	86	86	84	72	61	55	79	191	93	2730	306	226
17	83	87	82	70	62	54	90	181	94	2060	310	227
18	80	87	80	68	61	54	89	172	90	1990	350	227
19	82	87	82	70	60	54	85	168	88	1400	348	334
20	82	85	82	71	61	53	99	166	81	1180	330	331
21	82	85	82	71	60	54	97	158	77	1070	322	303
22	82	85	82	70	61	53	91	154	74	973	303	290
23	81	85	82	70	60	54	88	150	70	891	290	274
24	80	84	84	69	59	56	92	147	66	829	279	261
25	112	84	83	70	59	56	90	146	72	780	272	252
26	126	83	82	69	58	55	83	152	79	745	264	246
27	111	84	80	68	58	52	81	146	76	695	257	247
28	103	82	79	68	57	52	82	136	68	652	252	268
29	101	85	78	68	56	52	96	132	63	615	261	250
30	99	82	78	68	57	52	98	131	60	587	277	241
31	97	---	77	68	---	53	---	129	---	559	261	---
TOTAL	2750	2653	2506	2235	1819	1714	2668	6598	2813	26023	10733	8190
MEAN	88.7	88.4	80.8	72.1	62.7	55.3	88.9	213	93.8	839	346	273
MAX	126	99	84	77	69	59	186	1400	125	2730	531	474
MIN	78	82	77	68	56	52	51	76	60	54	252	226
CFSM	.12	.12	.11	.09	.08	.07	.12	.28	.12	1.10	.45	.36
IN.	.13	.13	.12	.11	.09	.08	.13	.32	.14	1.27	.52	.40
AC-FT	5450	5260	4970	4430	3610	3400	5290	13090	5580	51620	21290	16240
CAL YR 1975	TOTAL	50855	MEAN 139	MAX 1260	MIN 77	CFSM .18	IN 2.48	AC-FT 100900				
WTR YR 1976	TOTAL	70702	MEAN 193	MAX 2730	MIN 51	CFSM .25	IN 3.44	AC-FT 140200				

PEAK DISCHARGE (BASE, 700 FT³/S)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
5-7	0330	8.40	5,740	7-15	2200	10.28	11,800
7-13	1430	7.74	3,820	7-17	2130	7.36	2,840

NUECES RIVER BASIN

08190000 Nueces River at Laguna, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	IMMEDIATE COLIFORM (COL. PER 100 ML)	FECAL COLIFORM (COL. PER 100 ML)
NOV. 19...	1035	93	421	7.7	20.0	0	0	8.4	91	.3	53	14
JAN. 13...	1105	71	414	7.9	15.0	0	0	9.2	90	.1	31	10
MAR. 09...	1045	62	404	7.6	17.0	0	0	8.8	91	.2	3	1
MAY 04...	1045	88	399	7.5	19.5	0	0	8.3	89	.1	40	4
JULY 27...	1130	660	455	7.7	25.0	0	1	8.0	99	.0	34	14
SEP. 28...	1125	290	449	7.7	23.5	0	0	8.2	99	.3	480	63

DATE	STREP- TOCOCCT (COL- ONIES PER 100 ML)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
NOV. 19...	34	210	25	62	14	8.0	.2	1.0	228	0	13	14
JAN. 13...	16	200	16	57	14	7.8	.2	.9	224	0	13	15
MAR. 09...	19	190	23	56	13	7.6	.2	.9	208	0	10	16
MAY 04...	28	190	20	55	13	7.6	.2	.9	208	0	13	14
JULY 27...	30	220	22	66	14	8.5	.2	1.0	244	0	13	14
SEP. 28...	190	210	26	62	14	9.5	.3	1.1	228	0	14	18

DATE	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SiO2) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NON-FILTERABLE RESIDUE (MG/L)	VOL. NON-FILTERABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
NOV. 19...	.2	12	237	0	0	1.3	.00	.00	.11	.00	3.0
JAN. 13...	.1	10	228	1	0	.46	.00	.01	.31	.01	1.0
MAR. 09...	.2	10	216	0	0	1.4	.00	.00	.12	.00	4.0
MAY 04...	.2	11	217	1	0	.75	.01	.05	.00	.00	1.4
JULY 27...	.2	13	250	3	1	2.0	.01	.02	.00	.01	.8
SEP. 28...	.2	13	244	1	0	1.8	.00	.01	.08	.00	1.5

NUECES RIVER BASIN

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08190000 Nueces River at Laguna, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		DIS- SOLVED ALUM- INUM (AL) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)				
DATE	TIME											
JAN. 13...	1105	0	0	40	0	0	0	0				
SEP. 28...	1125	0	0	--	2	1	0	0				
		DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)			
DATE	TIME											
JAN. 13...		0	0	0	0	.0	0	170	0			
SEP. 28...		0	0	0	10	.0	1	260	10			
		POLY- CHLO- RINATED NAPH- THA- LENES (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLOR- DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	
DATE	TIME											
JAN. 13...	1105	.0	--	.00	.0	.00	.00	.00	.00	.00	.00	
SEP. 28...	1125	.0	.00	.00	.0	.00	.00	.00	.00	.00	.00	
		TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
DATE	TIME											
JAN. 13...		.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00
SEP. 28...		.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00

NUECES RIVER BASIN

08190500 West Nueces River near Brackettville, Tex.

LOCATION (revised).--Lat 29°28'21", long 100°14'10", Kinney County, at Wilson Ranch, on Farm Road 3199, 1.3 miles (2.1 km) upstream from Miguel Canyon, 16.0 miles (25.7 km) northeast of Brackettville, and 40.2 miles (64.7 km) upstream from mouth.

DRAINAGE AREA.--700 mi² (1,800 km²).

PERIOD OF RECORD.--September 1939 to September 1950, April 1956 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,326.79 ft (404.406 m) above mean sea level. Prior to Mar. 14, 1940, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--31 years, 38.3 ft³/s (1.085 m³/s), 27,750 acre-ft/yr (34.2 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 29,300 ft³/s (830 m³/s) July 17 (gage height, 17.39 ft or 5.300 m); no flow for many days.
 Period of record: Maximum discharge, 246,000 ft³/s (6,970 m³/s) Sept. 20, 1964 (gage height, 31.3 ft or 9.54 m, from floodmark), from rating curve extended above 4,500 ft³/s (127 m³/s) on basis of slope-area measurements of 10,000, 51,000, 150,000 and 246,000 ft³/s (283, 1,440, 4,250, and 6,970 m³/s); no flow most of time.
 Maximum stage since at least 1879, about 40 ft (12.2 m) June 14, 1935 (discharge, 550,000 ft³/s or 15,600 m³/s, based on slope-area measurements of 580,000 ft³/s or 16,400 m³/s at site 33 miles or 53 km upstream from gage and 536,000 ft³/s or 15,200 m³/s at site 24 miles or 39 km downstream from gage), present site and datum, from gage-height relation of 1935 and 1955 flood peaks at site 0.6 mile (1.0 km) upstream. Flood in 1900 reached a stage of about 34 ft (10.4 m), and flood of Sept. 24, 1955, reached a stage of 27.1 ft (8.26 m), from floodmark at present site (discharge, 150,000 ft³/s or 4,250 m³/s, by slope-area measurement).

REMARKS.--Records good above 10 ft³/s (0.28 m³/s) and fair below. In ordinary years, a large part of streamflow from basin is lost by seepage into the Balcones Fault Zone of the Edwards and associated limestones above station. No known diversion above station.

REVISIONS (WATER YEARS).--WSP 1312: 1949(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.30	.40	.07	.03			0	.16	.41	.05	183	34
2	.24	.47	.06	.03			0	.13	.39	.05	170	44
3	.27	.40	.07	.03			0	.11	.31	.10	157	105
4	.27	.41	.07	.03			.01	.11	.26	1480	147	83
5	.26	.39	.08	.03			.02	.13	.24	1150	137	62
6	.24	.38	.06	.03			.03	.13	.22	316	130	50
7	.24	.35	.06	.03			.05	.60	.20	216	121	44
8	.24	.32	.06	.02			.05	2.6	.18	168	114	39
9	.24	.32	.05	.02			.05	6.5	.16	182	107	34
10	.24	.29	.05	.02			.05	7.4	.15	242	101	30
11	.24	.27	.05	.02			.06	7.3	.14	490	96	29
12	.24	.24	.05	.02			.06	7.4	.14	419	92	27
13	.22	.22	.05	.02			.06	6.9	.13	423	89	25
14	.21	.21	.05	.02			.06	6.6	.11	496	84	24
15	.20	.17	.05	.02			.07	5.9	.10	1870	80	23
16	.22	.17	.05	.02			.10	4.8	.10	1680	76	22
17	.21	.17	.04	.02			.09	3.7	.09	7920	73	21
18	.19	.17	.04	.02			.12	2.9	.09	1760	70	20
19	.19	.14	.03	.02			.12	2.5	.09	568	69	21
20	.18	.12	.03	.01			.19	2.1	.08	405	62	19
21	.18	.11	.03	.01			.19	1.7	.06	361	59	18
22	.18	.11	.03	.01			.24	1.3	.05	338	56	17
23	.19	.11	.04	.01			.27	1.1	.05	326	53	15
24	.19	.09	.05	.01			.23	.91	.05	309	50	14
25	.54	.09	.04	.02			.18	.82	.15	290	47	13
26	.47	.08	.04	.01			.20	.85	.13	278	45	13
27	.62	.08	.04	.01			.25	.67	.13	267	43	13
28	.65	.09	.04	0			.24	.58	.10	252	40	13
29	.54	.10	.04	0			.24	.51	.08	235	39	16
30	.46	.08	.03	0	---		.18	.47	.06	216	38	19
31	.43	---	.03	0	---		---	.42	---	199	36	---
TOTAL	9.17	6.55	1.48	.54	0	0	3.41	77.30	4.45	22856.20	2664	907
MEAN	.30	.22	.048	.017	0	0	.11	2.49	.15	737	85.9	30.2
MAX	.65	.08	.03	.03	0	0	.27	7.4	.41	7920	183	105
MIN	.14	.08	.03	0	0	0	0	.11	.05	.05	36	13
AC-FT	18	13	2.9	1.1	0	0	6.8	153	8.8	45340	5280	1800
CAL YR 1975 TOTAL	302.17			MEAN .83	MAX 12	MIN 0	AC-FT 599					
WTR YR 1976 TOTAL	26530.10			MEAN 72.5	MAX 7920	MIN 0	AC-FT 52620					

PEAK DISCHARGE (BASE, 1,000 FT³/S)

DATE	TIME	G.HT.	DISCHARGE
7-4	1900	9.89	6,500
7-15	1900	9.50	5,830
7-17	1300	17.39	29,300

NUECES RIVER BASIN

381

08192000 Nueces River below Uvalde, Tex.

LOCATION.--Lat 29°07'25", long 99°53'40", Uvalde County, on right bank at McDaniel Ranch, 5.7 miles (9.2 km) upstream from bridge on U.S. Highway 83, 8.8 miles (14.2 km) southwest of Uvalde, 18.2 miles (29.3 km) downstream from West Nueces River, and at mile 366.0 (588.9 km).

DRAINAGE AREA.--1,947 mi² (5,043 km²).

PERIOD OF RECORD.--April 1939 to current year. October 1927 to April 1939 published as "near Uvalde"; records equivalent except during periods of low flow when seepage inflow between sites is a material factor.

GAGE.--Water-stage recorder. Datum of gage is 796.12 ft (242.657 m) above mean sea level. Oct. 4, 1927, to Apr. 30, 1939, water-stage recorder at site 6.2 miles (10.0 km) upstream at different datum.

AVERAGE DISCHARGE.--37 years, 115 ft³/s (3.257 m³/s), 83,320 acre-ft/yr (103 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 14,900 ft³/s (422 m³/s) July 18 (gage height, 11.95 ft or 3.642 m); minimum, 27 ft³/s (0.765 m³/s) May 2-4.

Period of record: Maximum discharge, 189,000 ft³/s (5,350 m³/s) Sept. 24, 1955 (gage height, 24.61 ft or 7.501 m, from floodmark), from rating curve extended above 34,000 ft³/s (963 m³/s) on basis of conveyance study and slope-area measurement of peak flow; no flow at times in 1951-57.

Maximum stage since at least 1836, 40.4 ft (12.31 m) June 14, 1935, from floodmarks (discharge at former site, 616,000 ft³/s or 17,400 m³/s, by slope-area measurement). Large floods occurred in 1901 and 1913, stages unknown.

REMARKS.--Records good. Part of flow of Nueces River enters Edwards and associated limestones in Balcones Fault Zone which crosses basin downstream from Laguna (station 08190000) and upstream from this station. At low stage, most of headwater flow enters this formation. Many small diversions above station for irrigation.

REVISIONS (WATER YEARS).--WSP 1732: 1956(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64	54	44	39	32	30	31	28	67	46	645	282
2	63	54	44	39	32	30	32	27	65	46	613	353
3	62	54	44	38	32	31	35	27	64	45	573	761
4	61	54	44	38	32	31	37	27	62	46	542	556
5	61	54	47	38	32	30	33	31	62	57	518	461
6	60	54	45	38	32	30	30	28	61	213	492	424
7	60	54	45	37	31	31	29	139	59	192	467	401
8	60	54	45	37	31	30	29	435	59	161	446	382
9	60	54	45	38	31	30	28	225	59	207	427	367
10	59	55	45	38	31	30	28	158	58	650	406	358
11	58	56	45	37	31	31	28	127	57	641	389	350
12	57	56	45	37	31	31	29	113	57	1100	374	344
13	56	55	45	37	31	30	29	172	56	1070	360	338
14	56	55	44	36	31	30	29	157	55	3190	358	329
15	55	55	42	36	31	30	30	134	54	2040	349	326
16	60	55	43	36	31	29	32	116	54	6650	349	327
17	54	55	42	36	31	29	29	103	53	4310	350	315
18	53	54	42	36	30	30	35	98	53	9250	344	311
19	53	53	42	36	30	30	30	92	52	3650	372	401
20	53	52	42	36	31	29	32	92	51	2220	371	447
21	51	52	41	35	29	29	29	88	51	1750	355	440
22	54	52	40	35	29	29	29	84	51	1500	343	410
23	51	51	41	35	30	30	29	80	50	1290	326	393
24	51	50	43	35	30	32	29	77	49	1140	315	381
25	62	50	40	34	30	30	28	75	50	1020	304	371
26	54	49	40	34	30	30	28	86	49	942	297	371
27	54	50	40	34	30	29	28	83	48	877	289	364
28	53	50	40	34	30	30	28	77	48	816	280	371
29	53	50	39	34	30	29	29	74	46	761	277	366
30	54	48	39	34	---	31	28	72	46	720	288	352
31	56	---	39	32	---	31	---	69	---	681	294	---
TOTAL	1762	1617	1339	1119	892	932	900	3194	1645	47281	12113	11652
MEAN	56.8	53.9	43.2	36.1	30.8	30.1	30.0	103	54.8	1525	391	388
MAX	64	58	49	39	32	32	37	435	67	9250	645	761
MIN	51	48	39	32	29	29	28	27	46	45	277	282
AC-FT	3490	3210	2660	2220	1770	1850	1790	6340	3260	93780	24030	23110
CAL YR 1975 TOTAL	47489											
WTR YR 1976 TOTAL	84446											
MEAN 130												
MAX 231												
MIN 39												
AC-FT 94190												
MIN 27												
AC-FT 167500												

PEAK DISCHARGE (BASE, 250 FT³/S)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
5-7	2230	4.78	707	7-18	0300	11.95	14,900
7-6	0400	4.33	287	9-3	0730	5.34	1,340
7-12	0300	5.26	1,230	9-20	1500	4.64	544
7-14	0400	7.26	4,440				

NUECES RIVER BASIN

08193000 Nueces River near Asherton, Tex.

LOCATION.--Lat 28°30'00", long 99°40'54", Dimmit County, on right bank 28 ft (9 m) downstream from bridge on Farm Road 190, 0.1 mile (0.2 km) downstream from El Moro Creek, 5.8 miles (9.3 km), revised, northeast of Asherton, and at mile 288.3 (463.9 km).

DRAINAGE AREA.--4,082 mi² (10,572 km²).

PERIOD OF RECORD.--October 1939 to current year.

GAGE.--Water-stage recorder. Datum of gage is 470.92 ft (143.536 m) above mean sea level. Prior to Feb. 2, 1940, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--37 years, 184 ft³/s (5.211 m³/s), 133,300 acre-ft/yr (164 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 6,350 ft³/s (180 m³/s) July 20 (gage height, 26.06 ft or 7.943 m); no flow for many days.

Period of record: Maximum discharge, 28,500 ft³/s (807 m³/s) Oct. 6, 1959 (gage height, 30.88 ft or 9.412 m); no flow for many days each year.

Maximum stage since at least 1900, 33 ft (10.1 m) June 17, 1935; flood of June 30, 1913, reached about same stage, from information by local residents.

REMARKS.--Records good. Part of flow of the Nueces River and its headwater tributaries enters the Edwards and associated limestones in the Balcones Fault Zone which crosses basin between Laguna and Uvalde (stations 08190000 and 08192000, respectively). Considerable loss of flow into various permeable formations occurs downstream from the Balcones Fault Zone. Flow slightly regulated by Upper Nueces Reservoir (capacity, 7,590 acre-ft or 9.36 hm³) 13 miles (21 km) upstream since March 1948. Many small diversions above station for irrigation.

REVISIONS (WATER YEARS).--WSP 1118: 1944.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	70	4.6	.41	.18	.02	.01	0	69	0	710	243
2	35	59	5.2	.28	.19	.02	.01	0	55	0	658	244
3	32	51	5.6	.26	.18	.02	0	0	42	0	616	241
4	24	46	7.8	.23	.18	.02	.01	0	28	0	583	291
5	27	37	7.2	.22	.18	.02	.02	0	13	0	548	442
6	23	33	5.6	.24	.18	.02	.05	0	5.1	0	519	407
7	22	32	3.4	.26	.22	.02	.19	.56	1.7	0	494	344
8	14	32	2.3	.26	.22	.02	.20	.31	.54	0	463	315
9	4.4	32	1.5	.26	.22	.04	.17	.37	.18	0	442	298
10	1.8	32	1.3	.26	.25	.11	.13	.35	.05	0	422	309
11	.95	30	1.2	.27	.26	.12	.09	.27	.02	.02	404	280
12	.44	27	1.0	.26	.24	.13	.05	.20	.01	.02	386	273
13	.43	19	.94	.34	.20	.13	.09	.17	0	.56	369	260
14	.92	14	.42	.34	.21	.17	.19	.11	0	455	353	254
15	.50	11	.60	.27	.26	.18	.28	.03	0	1120	338	251
16	1.8	8.5	.49	.22	.28	.22	.50	.02	0	1970	325	245
17	3.4	6.8	.38	.18	.20	.20	.17	.01	0	2800	324	268
18	25	6.5	.31	.15	.14	.17	.13	0	0	4270	339	250
19	48	12	.26	.14	.06	.16	.11	.30	0	5110	341	267
20	75	18	.31	.18	.03	.16	.22	3.8	0	6190	322	402
21	78	20	.26	.16	.02	.12	.25	77	0	4840	323	484
22	48	20	.25	.10	.02	.05	.19	169	0	3230	320	739
23	51	17	.41	.08	.01	.02	.13	181	0	2450	312	753
24	40	13	.47	.09	.01	.08	.10	157	0	1870	301	579
25	46	8.7	.41	.30	.01	.15	.04	135	0	1530	291	454
26	41	5.8	.37	.30	.01	.24	.02	135	0	1320	282	381
27	43	4.3	.33	.22	.01	.24	.01	154	0	1130	275	360
28	71	2.4	.29	.22	.01	.20	.01	154	0	1030	263	339
29	43	3.0	.27	.19	.01	.13	0	130	0	926	255	314
30	44	4.6	.26	.16	---	.05	0	105	0	841	248	304
31	78	---	.30	.18	---	.02	---	85	---	768	242	---
TOTAL	1112.71	675.6	54.45	4.93	4.01	3.25	3.37	1495.50	214.60	41850.60	12068	10591
MEAN	35.4	22.5	1.76	.22	.14	.10	.11	48.2	7.15	1350	389	353
MAX	84	71	7.8	.34	.28	.24	.50	181	69	6190	710	753
MIN	.44	2.4	.25	.08	.01	.02	0	0	0	0	242	241
AC-FT	2210	1346	108	14	8.0	6.4	6.7	2470	426	83010	23940	21010
CAL YR 1975	TOTAL	91516.21	MEAN	251	MAX	7010	MIN	0	AC-FT	141500		
WTR YR 1976	TOTAL	68080.02	MEAN	146	MAX	6190	MIN	0	AC-FT	135000		

PEAK DISCHARGE (BASE, 2,000 FT³/S).--July 20 (1200) 6,350 ft³/s (26.06 ft).

08194000 Nueces River at Cotulla, Tex.

LOCATION.--Lat 28°25'32", long 99°14'26", La Salle County, on left bank at downstream side of bridge on U.S. Highway 81, 0.3 mile (0.5 km) upstream from Missouri Pacific Railroad Co. bridge, 0.8 mile (1.3 km) south of Cotulla, 1.2 miles (1.9 km) upstream from Lind Dam, and at mile 235.7 (379.2 km).

DRAINAGE AREA.--5,260 mi² (13,620 km²).

PERIOD OF RECORD.--November 1923 to current year. November 1923 to September 1926 monthly discharge only, published in WSP 1312; figures of daily discharge for Oct. 31, 1923, to Sept. 30, 1926, published in WSP 588, 608, and 628, have been found to be unreliable and should not be used. Gage-height records collected in this vicinity in 1914-17 and since 1922 are contained in reports of the National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 368.08 ft (112.191 m) above mean sea level. Oct. 31, 1923, to Aug. 3, 1924, nonrecording gage at approximate site of present gage at datum 7.28 ft (2.219 m) higher. Aug. 4, 1924, to Nov. 19, 1934, nonrecording gage at site 5,000 ft (1,520 m) downstream at datum 8.42 ft (2.566 m) higher. Nov. 20, 1934, to July 14, 1938, water-stage recorder, and July 15, 1938, to Apr. 30, 1963, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--52 years (1924-76), 280 ft³/s (7.930 m³/s), 202,900 acre-ft/yr (250 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 5,360 ft³/s (152 m³/s) July 23 (gage height, 15.19 ft or 4.630 m); no flow Feb. 23 to May 6, July 3-6.

Period of record: Maximum discharge, 82,600 ft³/s (2,340 m³/s) June 18, 1935 (gage height, 32.4 ft or 9.88 m, from floodmarks), from rating curve extended above 43,000 ft³/s (1,220 m³/s) on basis of slope-area measurement of peak flow; no flow at times each year. Maximum stage since at least 1879, that of June 18, 1935. Flood of June 19, 1899, reached a stage of 29.7 ft (9.05 m), from information by local residents.

REMARKS.--Records good. Part of flow of Nueces River and its headwater tributaries enter the Edwards and associated limestones in the Balcones Fault Zone between Laguna and Uvalde (stations 08190000 and 08192000, respectively). Considerable loss of flow into various permeable formations occurs downstream from the Balcones Fault Zone. Low flow is slightly regulated by small storage reservoirs above station, and most is diverted above station by pumping (see REMARKS for Nueces River near Asherton, station 08193000).

REVISIONS (WATER YEARS).--WSP 1732: 1957(M). See PERIOD OF RECORD.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	27	13	.13	.08			0	126	.06	1510	292
2	34	25	10	.13	.08			0	103	.01	1290	280
3	35	74	8.5	.16	.06			0	81	0	1100	276
4	34	71	7.1	.16	.06			0	65	0	955	276
5	33	61	6.1	.15	.08			0	53	0	853	275
6	24	53	4.6	.16	.05			0	42	0	775	335
7	25	48	4.1	.12	.06			10	32	.01	711	497
8	23	40	3.5	.11	.06			17	24	.05	658	495
9	21	36	3.5	.14	.05			5.9	18	3.2	615	418
10	17	32	3.2	.15	.07			2.1	13	3.6	575	364
11	17	33	1.8	.15	.06			.96	9.0	2.9	542	337
12	13	31	1.6	.14	.06			.48	5.3	1.7	513	336
13	5.2	31	.89	.17	.06			.24	2.6	1.7	489	309
14	5.4	31	.66	.11	.06			.24	1.6	2.2	463	288
15	4.5	30	.47	.08	.06			.20	1.3	2.3	437	267
16	5.4	25	.36	.09	.06			.12	1.0	2.47	416	263
17	5.4	25	.32	.09	.06			.04	.70	.771	412	256
18	3.3	16	.22	.09	.06			.04	2.1	1310	412	250
19	2.2	13	.22	.09	.06			.04	1.5	1550	406	299
20	1.7	10	.25	.08	.06			.18	1.3	1760	395	319
21	1.4	8.6	.24	.10	.02			.24	1.8	2610	394	336
22	23	7.5	.21	.10	.01			.15	2.0	4350	380	473
23	71	6.5	.20	.10				.05	1.5	5250	376	608
24	72	8.5	.21	.09				121	.86	4740	375	856
25	67	15	.21	.12				225	.56	3620	370	991
26	57	14	.16	.06	0			207	.51	3150	358	856
27	74	20	.15	.07				177	.46	2690	343	627
28	87	14	.15	.07	0			133	.34	2350	335	517
29	64	18	.13	.06	0			102	.30	2110	325	457
30	64	16	.15	.06	---			166	.15	1400	310	420
31	22	---	.14	.08	---		---	154	---	1700	304	---
TOTAL	146.1	475.2	71.66	3.41	1.28	0	0	1402.98	591.93	40325.73	17401	12573
MEAN	33.7	32.5	2.31	.11	.044	0	0	45.3	19.7	1301	561	419
MAX	87	87	13	.17	.08	0	0	225	125	5250	1510	991
MIN	1.4	6.5	.13	.06	0	0	0	0	.15	0	304	250
AC-FT	2070	1430	142	6.8	2.5	0	0	2780	1170	79990	34510	24940

CAL YR 1975 TOTAL 14734.61 MEAN 287 MAX 6760 MIN .13 AC-FT 207700
 YR 1976 TOTAL 74392.29 MEAN 203 MAX 5250 MIN 0 AC-FT 147600

PEAK DISCHARGE (BASE, 2,500 FT³/S).--July 23 (1400) 5,360 ft³/s (15.19 ft).

08194200 San Casimiro Creek near Freer, Tex.

LOCATION (revised).--Lat 27°57'53", long 98°58'00", Webb County, at downstream side of bridge on State Highway 44, 11.4 miles (18.3 km) upstream from mouth, and 22 miles (35 km) northwest of Freer.

DRAINAGE AREA.--469 mi² (1,215 km²).

PERIOD OF RECORD.--January 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is 298 ft (90.8 m) above mean sea level (State Highway Department bridge plans).

AVERAGE DISCHARGE.--14 years, 71.9 ft³/s (2.036 m³/s), 2.08 in/yr (53 mm/yr), 52,090 acre-ft/yr (64.2 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 2,220 ft³/s (62.9 m³/s) July 5 (gage height, 18.70 ft or 5.700 m); no flow for many days.
 Period of record: Maximum discharge, 82,000 ft³/s (2,320 m³/s) Oct. 17, 1971 (gage height, 26.87 ft or 8.190 m), from rating curve extended above 21,000 ft³/s (595 m³/s) on basis of flow-through-culverts, contracted-opening, and flow-over-road determination of 82,000 ft³/s (2,320 m³/s); no flow for many days each year.
 Maximum stage since at least 1946, that of Oct. 17, 1971. Second highest stage, 26 ft or 7.9 m (discharge, 65,200 ft³/s or 1,850 m³/s) occurred in 1954, from information by State Highway Department.

REMARKS.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
 MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	1.8	777	.21	.09			0	36	7.7	0	4.2	.17		
2	1.7	170	.20	.07			0	8.6	.73	0	2.5	.10		
3	1.7	33	.22	.04			0	2.8	.35	0	1.7	.06		
4	1.7	16	.21	.03			.99	1.3	.23	5.0	1.2	.04		
5	1.7	7.5	.21	.03			9.8	.84	.18	1370	.98	.03		
6	1.7	5.3	.18	.03			34	.58	.13	961	.72	.02		
7	1.7	4.1	.17	.03			3.3	7.9	.09	78	.53	0		
8	.78	3.2	.15	.02			143	130	.06	490	.40	0		
9	0	2.7	.15	.01			54	55	.03	1300	.29	0		
10	0	2.3	.15	.01			2.2	16	.01	1440	.21	0		
11	0	2.0	.15	.01			.59	5.5	0	1450	.16	0		
12	0	1.8	.15	0			3.3	2.6	0	955	.12	0		
13	0	1.5	.15	.01			477	7.3	0	351	.10	0		
14	0	1.4	.14	.01			97	27	0	287	.07	0		
15	0	1.4	.12	0			17	8.8	0	625	.06	0		
16	0	1.3	.12	0			4.0	9.0	0	218	.04	0		
17	0	1.2	.10	0			1.9	2.6	0	145	.24	2.1		
18	0	1.0	.09	0			17	.99	.02	72	.54	.14		
19	0	.84	.07	0			14	.57	0	43	.80	.07		
20	0	.60	.07	.04			4.7	.45	0	29	13	.50		
21	0	.54	.06	.03			1.7	.29	.77	24	2.0	.37		
22	0	.51	.05	.02			.89	.21	.17	260	.69	.16		
23	0	.42	.04	.02			.63	.16	.06	340	.31	.09		
24	0	.42	.08	.02			.48	.12	.03	536	.19	.05		
25	.08	.37	.08	.03			.37	.09	.01	118	.13	.03		
26	138	.32	.07	.02			.27	245	0	64	8.4	2.6		
27	372	.30	.06	.01			.23	209	0	49	37	141		
28	831	.33	.06	0			.22	24	0	51	2.5	176		
29	518	.30	.04	0			13	5.7	0	25	.87	79		
30	536	.31	.09	0	---		176	2.2	0	12	.45	49		
31	985	---	.11	0	---		---	1.6	---	7.0	.28	---		
TOTAL	3392.86	1037.96	3.75	.58	0	0	1077.57	812.20	10.57	11305.0	159.88	451.53		
MEAN	109	34.6	.12	.019	0	0	35.9	26.2	.35	365	5.16	15.1		
MAX	985	777	.22	.09	0	0	477	245	7.7	1450	80	176		
MIN	0	.30	.04	0	0	0	0	.09	0	0	.04	0		
CFSM	.23	.67	0	0	0	0	.08	.06	0	.78	.01	.03		
IN.	.27	.08	.0003	.00004	0	0	.09	.06	.0004	.90	.01	.04		
AC-FT	6730	2060	7.4	1.2	0	0	2140	1610	21	22420	317	896		
CAL YR 1975	TOTAL	15650.96	MEAN	42.9	MAX	1810	MIN	0	CFSM	.09	IN	1.24	AC-FT	31040
WTR YR 1976	TOTAL	18251.90	MEAN	49.9	MAX	1450	MIN	0	CFSM	.11	IN	1.45	AC-FT	36200

PEAK DISCHARGE (BASE, 500 FT³/S)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
10-28	1100	15.43	905	7- 9	2400	17.61	1,590
10-31	1400	16.14	1,080	7-15	0500	15.05	766
4-13	1200	13.82	598	7-24	1100	14.03	598
7- 5	1900	18.70	2,220				

NUECES RIVER BASIN

385

08194500 Nueces River near Tilden, Tex.

LOCATION.--Lat 28°18'31", long 98°33'25", McMullen County, on right bank at downstream side of pier of bridge on State Highway 16, 1.8 miles (2.9 km) upstream from Kings Branch, 10.5 miles (16.9 km) south of Tilden, and at mile 141.2 (227.2 km).

DRAINAGE AREA.--8,192 mi² (21,217 km²).

PERIOD OF RECORD.--November 1942 to current year.

GAGE.--Water-stage recorder. Datum of gage is 183.5 ft (55.93 m) above mean sea level.

AVERAGE DISCHARGE.--33 years (1943-76), 456 ft³/s (12.91 m³/s), 330,400 acre-ft/yr (407 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 7,960 ft³/s (225 m³/s) Sept. 22 (gage height, 19.25 ft or 5.867 m); minimum, 0.22 ft³/s (0.006 m³/s) Mar. 31, Apr. 2-4.

Period of record: Maximum discharge, 76,500 ft³/s (2,170 m³/s) Sept. 24, 1967 (gage height, 26.57 ft or 8.099 m); no flow at times.

Maximum stage since about 1902, that of Sept. 24, 1967. Flood of Oct. 11, 1946, reached a stage of 26.46 ft (8.065 m), discharge 70,000 ft³/s (1,980 m³/s). Floods in June 1935 reached a stage of 23.7 ft (7.22 m) and in July 1942 about 22 ft (6.7 m), from information by local residents.

REMARKS.--Records good. Part of flow of Nueces River and its headwater tributaries enters Edwards and associated limestones in the Balcones Fault Zone between Laguna and Uvalde (stations 08190000 and 08192000, respectively). Some loss of flow into various permeable formations occurs downstream from the Balcones Fault Zone. Some diversions for irrigation above station.

REVISIONS (WATER YEARS).--WSP 1512: 1947. WSP 1732: 1951(M).

DISCHARGE* IN CUBIC FEET PER SECOND* WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	895	3.3	1.9	1.4	.72	.27	12	239	1.2	3480	294
2	46	887	7.2	1.9	1.3	.72	.25	164	200	1.2	3240	284
3	42	945	8.8	1.9	1.3	.79	.22	86	177	1.1	2890	277
4	38	826	9.5	1.6	1.2	.65	.45	27	134	1.1	2510	265
5	35	235	8.5	1.5	1.2	.58	.56	8.9	101	20	2090	255
6	33	112	7.1	1.5	1.2	.57	.53	4.0	80	914	1650	252
7	31	72	5.8	1.5	.93	.59	.48	5.6	64	1360	1200	252
8	29	63	5.0	1.4	.82	.66	.53	38	51	1660	763	254
9	27	53	4.4	1.3	.89	.60	.52	7.9	41	2200	627	307
10	25	51	4.0	1.3	.90	.61	81	115	30	2740	564	387
11	23	51	3.6	1.3	.91	.66	97	84	22	2570	523	399
12	21	39	3.5	1.5	1.0	.66	26	43	16	2090	492	362
13	20	30	3.1	1.7	1.0	.75	15	45	12	1920	465	324
14	18	31	2.8	1.7	1.0	.66	19	45	9.1	2260	442	307
15	15	30	2.4	1.7	.93	.60	362	26	7.1	2820	424	305
16	13	28	2.0	1.7	.82	.66	201	25	5.6	2970	408	284
17	12	26	1.7	1.7	.83	.59	56	13	4.4	2630	394	267
18	10	16	1.4	1.7	.84	.56	52	5.8	3.7	2090	399	254
19	8.9	29	1.1	1.9	.84	.52	52	4.8	3.2	1330	428	251
20	8.1	25	1.1	2.2	.85	.50	131	3.1	2.7	754	523	618
21	8.2	17	1.1	2.3	.80	.46	225	2.0	2.2	898	491	2930
22	7.8	23	1.1	2.3	.74	.42	100	1.4	1.9	1030	398	7350
23	7.0	13	1.1	2.1	.66	.44	49	1.0	1.7	1010	367	6280
24	6.5	11	2.6	2.1	.66	.46	19	.65	1.6	1070	355	4110
25	6.8	8.4	3.0	2.3	.66	.46	106	.40	3.2	1180	342	2950
26	8.2	6.7	2.1	2.3	.75	.46	48	116	13	1340	337	1890
27	7.4	5.4	1.9	2.2	.82	.44	32	146	2.4	1490	334	913
28	378	4.8	1.9	1.6	.80	.41	64	497	1.6	1680	340	774
29	588	4.3	1.9	1.7	.74	.39	47	565	1.4	2180	367	914
30	741	3.7	1.9	1.6	---	.37	32	349	1.3	2870	343	1090
31	872	---	1.9	1.6	---	.27	---	281	---	3370	307	---
TOTAL	3203.5	4541.3	106.8	55.2	26.79	17.23	1817.81	2722.55	1233.1	48450.6	27493	35399
MEAN	103	151	3.45	1.78	.92	.56	60.6	87.8	41.1	1563	887	1180
MAX	872	945	9.5	2.3	1.4	.79	362	565	239	3370	3480	7350
MIN	6.5	3.7	1.1	1.3	.66	.27	.22	.40	1.3	1.1	307	251
AC-FT	6350	9010	212	109	53	34	3610	5400	2450	96100	54530	70210
CAL YR 1975 TOTAL	139296.10			MEAN 382	MAX 4630	MIN 1.0	AC-FT 276300					
WTR YR 1976 TOTAL	125066.88			MEAN 342	MAX 7350	MIN .22	AC-FT 248100					

PEAK DISCHARGE (BASE, 1,800 FT³/S)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
7-10	1900	16.74	2,860	8-1	0200	17.33	3,520
7-16	0400	16.94	3,040	9-22	1500	19.25	7,960

08194600 Nueces River at Simmons, Tex.

LOCATION.--Lat 28°25'16", long 98°17'03", Live Oak County, on right bank 58 ft (18 m) upstream from centerline of county road, 714 ft (218 m) to right of right abutment of county road bridge, 1.1 miles (1.8 km) north of Simmons, 1.5 miles (2.4 km) upstream from Lang Creek, 10.1 miles (16.3 km) upstream from Frio River, and at mile 113.7 (182.9 km).

DRAINAGE AREA.--8,561 mi² (22,173 km²).

PERIOD OF RECORD.--April 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 119.63 ft (36.463 m) above mean sea level.

AVERAGE DISCHARGE.--11 years, 581 ft³/s (16.45 m³/s), 420,900 acre-ft/yr (519 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 7,520 ft³/s (213 m³/s) Sept. 20 (gage height, 27.98 ft or 8.528 m); no flow Apr. 1-3, July 2-4.

Period of record: Maximum discharge, 72,000 ft³/s (2,040 m³/s) Sept. 25, 1967 (gage height, 43.21 ft or 13.170 m); no flow at times.

Maximum stage since at least 1875, 43.5 ft or 13.26 m (discharge, 75,800 ft³/s or 2,150 m³/s), in September 1919; floods in June 1935 and July 1942 reached a stage of 42.0 ft or 12.80 m (discharge, 58,500 ft³/s or 1,660 m³/s), from information by local residents.

REMARKS.--Records good. Part of flow of the Nueces River and its headwater tributaries enters the Edwards and associated limestones in the Balcones Fault Zone between Laguna and Uvalde (stations 08190000 and 08192000, respectively). Some loss of flow into various permeable formations occurs downstream from the Balcones Fault Zone. Some diversions for irrigation above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64	820	7.1	6.9	1.4	.06	0	46	249	.10	2490	296
2	58	823	7.3	7.1	1.2	.03	0	38	204	0	2770	284
3	53	831	7.3	6.6	1.3	.03	0	154	174	0	2830	274
4	49	866	12	6.3	1.1	.01	12	69	147	0	2670	265
5	46	568	13	6.0	.94	.02	1.4	34	111	.35	2360	250
6	43	161	12	6.4	.99	.04	.51	20	86	157	2010	243
7	41	106	11	7.0	.72	.04	.53	52	68	937	1590	241
8	38	81	8.6	5.2	.65	.04	.57	54	55	1200	1020	239
9	36	72	7.4	4.6	.69	.43	.47	56	45	1420	711	253
10	34	61	7.4	4.9	.69	.85	.40	28	37	1730	620	330
11	31	60	7.5	4.8	1.1	.47	52	137	29	2180	571	389
12	28	57	7.3	4.3	1.1	.38	65	74	23	2420	534	380
13	26	45	7.3	4.3	1.2	.39	31	64	17	2100	503	337
14	23	36	7.1	3.6	1.2	.44	20	55	12	1810	472	307
15	21	37	7.2	2.8	1.2	.53	78	47	8.1	1880	447	313
16	17	36	7.0	2.9	.97	.41	340	34	6.3	2130	430	299
17	15	33	7.0	2.8	.97	.29	109	31	5.0	2390	416	269
18	13	31	6.9	2.6	1.1	.36	235	21	4.0	2380	399	247
19	11	24	7.2	2.3	.88	.42	107	13	3.2	2070	413	242
20	9.3	31	7.2	2.2	.77	.53	97	15	3.0	1300	469	4320
21	7.9	29	7.2	2.5	.62	.47	259	13	2.0	960	530	5580
22	7.4	19	7.2	2.5	.36	.27	170	5.7	1.6	1100	447	2810
23	7.4	26	7.2	2.0	.21	.23	81	4.4	1.3	1010	378	4250
24	6.7	18	17	1.9	.11	.33	47	3.7	.80	979	360	5560
25	7.5	14	7.3	2.4	.10	.17	38	3.2	.27	1030	345	4440
26	12	12	6.8	2.3	.11	.16	104	34	.04	1110	334	3370
27	8.1	9.9	7.0	1.4	.11	.25	46	232	3.5	1210	332	2530
28	119	9.0	7.1	1.5	.07	.25	41	256	3.5	1350	326	1020
29	396	8.2	7.1	1.4	.09	.23	180	563	1.7	1530	349	827
30	567	7.2	7.2	1.4	---	.11	144	484	.66	1760	355	929
31	721	---	7.1	1.4	---	.04	---	295	---	2100	318	---
TOTAL	2516.3	4931.3	253.0	114.3	21.95	8.28	2259.88	2936.0	1301.97	40243.45	27799	41094
MEAN	81.2	164	8.16	3.69	.76	.27	75.3	94.7	43.4	1298	897	1370
MAX	721	866	17	7.1	1.4	.85	340	563	249	2420	2830	5580
MIN	6.7	7.2	6.8	1.4	.07	.01	0	3.2	.04	0	318	239
AC-FT	4990	9780	502	227	44	16	4480	5820	2580	79820	55140	81510

CAL YR 1975 TOTAL 122773.45 MEAN 336 MAX 3430 MIN .44 AC-FT 243500
WTR YR 1976 TOTAL 123479.43 MEAN 337 MAX 5580 MIN 0 AC-FT 244900

PEAK DISCHARGE (BASE, 2,000 FT³/S)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
7-12	0630	18.97	2,460	9-20	2230	27.98	7,520
7-17	1830	18.93	2,450	9-24	0500	26.05	5,740
8- 3	1130	20.55	2,840				

NUECES RIVER BASIN

387

08195000 Frio River at Concan, Tex.

LOCATION.--Lat 29°29'18", long 99°42'16", Uvalde County, on left bank 0.7 mile (1.1 km) southeast of Concan Post Office, 15 miles (24 km) upstream from Dry Frio River, and at mile 224.1 (360.6 km).

DRAINAGE AREA.--405 mi² (1,049 km²).

PERIOD OF RECORD.--Discharge: October 1923 to September 1929, October 1930 to current year.

Water quality: Chemical, biochemical, and pesticide analyses: January 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,203.71 ft (366.891 m) above mean sea level. Oct. 26, 1923, to July 28, 1924, nonrecording gage at site 86 ft (26 m) upstream at datum 5.08 ft (1.548 m) lower. July 29, 1924, to Oct. 3, 1930, nonrecording gage, and Oct. 4, 1930, to May 18, 1939, water-stage recorder, at site 130 ft (40 m) downstream at present datum.

AVERAGE DISCHARGE.--51 years (1924-29, 1930-76), 108 ft³/s (3.059 m³/s), 3.62 in/yr (92 mm/yr), 78,250 acre-ft/yr (96.5 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 13,400 ft³/s (379 m³/s) May 7 (gage height, 11.15 ft or 3.399 m); minimum, 54 ft³/s (1.53 m³/s) Mar. 16, 19-23, 26-31, Apr. 1, 2.

Period of record: Maximum discharge, 162,000 ft³/s (4,590 m³/s) July 1, 1932 (gage height, 34.44 ft or 10.497 m, from floodmarks), from rating curve extended above 44,000 ft³/s (1,250 m³/s) on basis of flow-over-dam measurement of 56,600 ft³/s (1,600 m³/s) and slope-area measurement of 162,000 ft³/s (4,590 m³/s); no flow Aug. 5, 1956, to Jan. 6, 1957.

Maximum stage since at least 1869, that of July 1, 1932.

REMARKS.--Discharge records good. Many small diversions for irrigation above station.

REVISIONS (WATER YEARS).--WSP 1342: Drainage area. WSP 1512: 1926, 1931-32, 1934(M), 1935-36. WSP 1712: 1958. WSP 1923: 1954(M), 1957(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	76	101	75	71	64	60	55	91	115	80	430	190
2	59	100	76	70	64	58	56	87	111	78	411	194
3	67	99	75	70	64	58	61	84	108	78	392	237
4	67	96	76	69	65	58	140	83	108	231	380	201
5	67	95	77	70	65	58	98	90	108	368	366	189
6	67	95	75	70	63	58	94	86	115	219	351	180
7	67	92	75	68	63	59	86	2120	108	190	338	183
8	67	92	75	67	63	59	81	340	108	174	324	176
9	67	92	75	68	62	58	80	240	108	223	312	169
10	67	91	75	68	63	58	80	208	105	353	302	164
11	67	89	75	67	62	58	79	190	102	644	292	159
12	67	86	75	67	62	58	78	180	102	1070	283	151
13	65	83	75	67	61	57	78	194	102	1560	269	150
14	65	83	75	67	61	58	79	176	102	1990	261	155
15	65	83	73	67	61	57	80	167	98	1940	252	154
16	68	83	73	67	60	56	98	158	98	2910	247	149
17	94	83	72	67	61	56	91	146	98	2380	243	146
18	86	83	72	67	60	56	103	146	98	1380	252	145
19	80	82	72	67	60	55	92	150	95	1040	245	173
20	77	80	72	68	60	54	101	158	95	949	232	155
21	75	80	72	66	60	54	97	158	92	884	224	147
22	75	80	72	65	58	57	93	142	89	804	218	141
23	75	79	71	65	59	54	92	133	86	732	212	138
24	75	78	82	65	59	59	91	129	83	685	206	136
25	96	78	81	65	58	58	90	126	108	630	200	133
26	131	75	75	65	59	57	87	126	105	598	196	133
27	135	77	73	65	59	56	86	126	92	564	192	133
28	126	78	72	65	58	56	86	122	89	533	180	161
29	116	78	70	65	59	56	95	122	86	506	183	140
30	109	75	70	65	---	54	94	118	80	481	188	136
31	105	---	71	64	---	56	---	118	---	450	192	---
TOTAL	2527	2565	2297	2077	1773	1766	2621	6514	2994	24744	8373	4818
MEAN	81.5	85.5	74.1	67.0	61.1	57.0	87.4	210	99.8	798	270	161
MAX	135	101	82	71	65	60	140	2120	115	2910	430	237
MIN	65	75	70	64	58	54	55	83	80	78	180	133
CFSM	.20	.21	.18	.17	.15	.14	.22	.52	.25	1.97	.67	.40
IN.	.23	.24	.21	.19	.16	.16	.24	.60	.28	2.27	.77	.44
AC-FT	5010	5090	4560	4120	3520	3500	5200	12920	5940	49080	16610	9560

CAL YR 1975	TOTAL	40551	MEAN	111	MAX	326	MIN	65	CFSM	.27	IN	3.72	AC-FT	80430
WTR YR 1976	TOTAL	63069	MEAN	172	MAX	2910	MIN	54	CFSM	.42	IN	5.79	AC-FT	125100

PEAK DISCHARGE (BASE, 500 FT³/S)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
5-7	0500	11.15	13,400	7-16	0530	7.89	5,210
7-4	1330	4.80	583	7-17	1300	7.41	4,290
7-5	1030	5.20	949				

NUECES RIVER BASIN

08195000 Frio River at Concan, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	IMMEDIATE COLIFORM (COL. PER 100 ML)	FECAL COLIFORM (COL. PER 100 ML)
NOV. 19...	0815	81	415	7.7	19.5	0	0	8.3	89	.0	70	22
JAN. 13...	0830	66	415	7.8	12.0	0	0	9.8	91	.3	43	13
MAR. 09...	0830	59	401	7.7	14.5	0	0	9.8	95	.1	76	15
MAY 04...	0830	83	406	7.6	19.0	0	0	8.8	94	.4	150	15
JULY 26...	1630	590	475	7.8	27.0	0	8	8.6	109	.1	120	31
SEP. 28...	0850	195	434	7.8	22.5	0	2	8.0	94	.3	1300	320

DATE	STREPTOCOCCI (COLONIES PER 100 ML)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISSOLVED PHOSPHATE (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)
NOV. 19...	190	220	29	63	15	6.7	.2	.9	232	0	12	12
JAN. 13...	21	210	12	59	14	6.6	.2	.9	236	0	12	13
MAR. 09...	63	200	20	56	14	6.5	.2	.9	216	0	9.7	13
MAY 04...	64	200	15	57	13	6.8	.2	.8	220	0	14	13
JULY 26...	42	230	20	72	13	7.8	.2	1.1	260	0	13	14
SEP. 28...	780	210	15	59	14	7.8	.2	1.0	232	0	13	15

DATE	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SiO2) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NON-FILTERABLE RESIDUE (MG/L)	VOL. NON-FILTERABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
NOV. 19...	.4	11	235	0	0	.34	.00	.00	.39	.00	2.4
JAN. 13...	.1	9.7	232	2	1	.20	.00	.01	.13	.00	1.0
MAR. 09...	.1	11	218	0	0	.45	.00	.00	.23	.00	3.8
MAY 04...	.2	11	224	0	0	.20	.01	.01	.10	.00	1.1
JULY 26...	.2	13	262	15	3	1.6	.00	.00	.10	.00	2.9
SEP. 28...	.2	12	237	3	0	.82	.00	.01	.14	.00	1.7

NUECES RIVER BASIN

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08195000 Frio River at Concan, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		DIS- SOLVED ALUM- INUM (AL) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)			
DATE	TIME										
JAN. 13...	0830	10	0	60	0	0	0	0			
SEP. 28...	0850	0	0	--	3	3	0	0			
		DIS- SOLVED IRON (FF) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)		
DATE	TIME										
JAN. 13...	0	0	0	10	.0	0	200	0			
SEP. 28...	0	0	3	0	0	.1	2	290	10		
		POLY- CHLO- RINATED NAPH- THA- LENES (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLOR- DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI- AZINON (UG/L)	TOTAL DI- FLURIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)
DATE	TIME	TOTAL PCB (UG/L)									
JAN. 13...	0830	.0	--	.00	.0	.00	.00	.00	.00	.00	.00
SEP. 28...	0850	.0	.00	.00	.0	.00	.00	.00	.00	.00	.00
DATE	TIME	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
JAN. 13...	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00
SEP. 28...	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00

NUECES RIVER BASIN

08196000 Dry Frio River near Reagan Wells, Tex.

LOCATION.--Lat 29°30'16", long 99°46'52", Uvalde County, on right bank 2.3 miles (3.7 km) upstream from bridge on U.S. Highway 83, 3.1 miles (5.0 km) upstream from Rocky Creek, and 4.3 miles (6.9 km) southeast of Reagan Wells.

DRAINAGE AREA.--117 mi² (303 km²).

PERIOD OF RECORD.--Discharge: September 1952 to current year.

Water quality: Chemical, biochemical, and pesticide analyses: January 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,335.2 ft (406.97 m) above mean sea level, adjustment unknown.

AVERAGE DISCHARGE.--24 years, 35.2 ft³/s (0.997 m³/s), 4.09 in/yr (104 mm/yr), 25,500 acre-ft/yr (31.4 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 12,300 ft³/s (348 m³/s) May 7 (gage height, 14.77 ft or 4.502 m); minimum, 6.6 ft³/s (0.19 m³/s) Apr. 2.

Period of record: Maximum discharge, 123,000 ft³/s (3,480 m³/s) Aug. 13, 1966 (gage height, 27.6 ft or 8.41 m, from floodmark), from rating curve extended above 900 ft³/s (25.5 m³/s) on basis of slope-area measurements of 11,400, 30,700, 64,700, and 123,000 ft³/s (323, 869, 1,830, and 3,480 m³/s); no flow at times.

Maximum stage since at least 1875 occurred in 1880, about 33 ft (10.1 m). Flood of June 14, 1935, reached a stage of 26.0 ft or 7.92 m (discharge at site 2.6 miles or 4.2 km upstream, 64,700 ft³/s or 1,830 m³/s), and that of July 1, 1932, reached a stage of 23 ft or 7.0 m (discharge at site 2.0 miles or 3.2 km upstream, 30,700 ft³/s or 869 m³/s), from information by local residents.

REMARKS.--Discharge records good. Several small diversions above station.

REVISIONS (WATER YEARS).--WSP 1712: 1953. WSP 1923: 1955(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	18	11	9.1	7.9	7.9	6.9	29	34	25	138	46
2	9.9	18	11	9.0	7.9	7.9	7.0	26	33	23	130	229
3	9.4	19	11	8.7	7.8	7.9	9.4	23	32	21	125	555
4	9.4	17	12	8.6	8.1	7.9	48	22	29	39	119	138
5	9.4	16	12	8.8	8.4	7.4	66	25	29	69	111	97
6	9.4	15	11	9.0	8.2	7.3	47	23	30	52	107	86
7	9.6	15	11	8.8	7.9	7.9	36	1930	27	67	103	80
8	9.5	14	11	8.3	8.2	8.7	30	366	26	53	91	74
9	9.6	14	11	8.4	8.3	8.2	26	212	23	191	88	69
10	10	14	11	8.8	8.5	7.9	23	158	22	431	83	64
11	10	13	11	8.9	8.6	8.0	22	124	22	458	77	61
12	9.7	13	11	8.7	8.4	8.2	21	111	22	369	76	58
13	9.6	13	11	8.7	8.3	7.7	20	99	22	299	74	55
14	9.4	13	11	8.4	8.4	7.5	19	89	21	390	71	53
15	9.3	13	11	8.3	8.3	7.6	20	79	21	529	68	52
16	11	13	11	8.3	8.4	7.5	30	73	21	1140	66	51
17	11	13	11	8.3	8.8	7.5	27	66	21	796	67	49
18	9.7	13	11	8.1	8.2	7.4	42	61	22	525	79	48
19	9.4	12	11	8.2	7.9	7.7	36	58	21	403	77	121
20	9.5	12	11	8.8	8.5	7.8	43	57	21	336	67	94
21	9.7	12	11	8.5	8.4	7.3	43	54	20	299	63	79
22	9.4	12	10	8.2	8.0	7.4	39	51	19	275	60	70
23	9.4	12	11	8.2	7.8	7.6	35	48	18	253	57	65
24	9.4	12	14	8.4	7.7	9.0	34	47	17	246	55	62
25	24	11	12	8.7	7.5	9.3	36	45	30	225	54	60
26	36	11	10	8.3	7.7	8.6	30	55	54	214	52	60
27	32	11	9.8	8.3	7.9	7.7	28	48	41	194	48	57
28	25	11	9.7	8.3	7.9	7.5	28	41	33	180	48	64
29	22	12	9.4	8.3	7.9	7.2	28	38	29	168	56	60
30	20	11	9.2	8.4	---	7.2	29	37	27	157	49	55
31	19	---	9.1	8.1	---	6.9	---	36	---	147	47	---
TOTAL	418.5	403	337.2	263.9	235.8	241.6	909.3	4131	787	8574	2406	2712
MEAN	13.5	13.4	10.9	8.51	8.13	7.79	30.3	133	26.2	277	77.6	90.4
MAX	36	19	14	9.1	8.8	9.3	66	1930	54	1140	138	555
MIN	9.3	11	9.1	8.1	7.5	6.9	6.9	22	17	21	47	46
CFSM	.12	.11	.09	.07	.07	.07	.26	1.14	.22	2.37	.66	.77
IN.	.13	.13	.11	.08	.07	.08	.29	1.31	.25	2.73	.76	.86
AC-FT	830	799	669	523	468	479	1800	8190	1560	17010	4770	5380

CAL YR 1976 TOTAL 1,325.7 MEAN 28.3 MAX 137 MIN 9.1 CFSM .24 IN 3.28 AC-FT 20480
WTR YR 1976 TOTAL 21419.3 MEAN 58.5 MAX 1930 MIN 6.9 CFSM .50 IN 6.81 AC-FT 42490

PEAK DISCHARGE (BASE, 200 FT³/S)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
5-7	0400	14.77	12,300	7-16	0300	5.21	1,480
7-7	2000	3.46	480	9- 2	2330	9.45	4,870

NUECES RIVER BASIN

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08196000 Dry Frio River near Reagan Wells, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIOCHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	IMMEDIATE COLIFORM (COL. PER 100 ML)	FECAL COLIFORM (COL. PER 100 ML)
NOV 19...	0905	12	395	7.8	19.0	0	0	8.5	90	.1	71	20
JAN 13...	0935	8.5	400	7.9	12.0	0	0	10.1	94	.2	48	14
MAR 09...	0920	8.0	390	7.5	14.5	0	0	10.0	97	.3	50	34
MAY 04...	0920	26	384	7.7	19.0	0	0	8.4	89	.2	76	7
JUL 27...	1010	240	456	7.8	25.0	0	0	7.8	96	.1	180	25
SEP 28...	0950	67	421	7.6	24.0	0	0	7.8	95	.1	560	160

DATE	STREPTOCOCCI (COLONIES PER 100 ML)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISSOLVED PHOSPHATE (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)
NOV 19...	74	200	21	58	13	6.7	.2	.6	216	0	15	11
JAN 13...	32	200	22	57	13	6.5	.2	.5	212	0	17	13
MAR 09...	180	190	24	57	12	6.4	.2	.6	204	0	13	13
MAY 04...	84	180	17	54	12	5.9	.2	.6	204	0	15	11
JUL 27...	100	230	22	70	13	7.5	.2	.7	252	0	13	12
SEP 28...	260	210	22	62	13	7.0	.2	.7	228	0	13	12

DATE	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SiO2) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NON-FILTERABLE RESIDUE (MG/L)	VOL. NON-FILTERABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
NOV 19...	.1	9.1	220	0	0	.74	.00	.01	.15	.00	1.8
JAN 13...	.2	7.5	220	1	0	.58	.00	.01	.00	.00	1.0
MAR 09...	.2	8.8	212	0	0	1.1	.00	.00	.27	.00	2.6
MAY 04...	.1	8.8	208	0	0	.47	.01	.00	.08	.00	1.0
JUL 27...	.2	11	252	2	1	.63	.00	.00	.20	.00	10
SEP 28...	.2	11	232	1	1	1.2	.00	.00	.24	.00	2.6

NUECES RIVER BASIN

08196000 Dry Frio River near Reagan Wells, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		DIS- SOLVED ALUM- INUM (AL) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)					
DATE	TIME												
JAN. 13...	0935	10	0	30	0	0	0	0					
SEP. 28...	0950	0	0	--	2	4	0	0					
		DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)				
DATE	TIME												
JAN. 13...	0	0	0	0	0	0	0	330	0				
SEP. 28...	0	0	3	0	0	0	2	380	10				
		POLY- CHLO- RINATED NAPHE- THA- LENES (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLOR- DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)		
JAN. 13...	0935	.0	--	.00	.0	.00	.00	.00	.00	.00	.00		
SEP. 28...	0950	.0	.00	.00	.0	.00	.00	.00	.00	.00	.00		
DATE	TIME	TOTAL HEPTA- CHLOR (UG/L)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
JAN. 13...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00	.00
SEP. 28...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00	.00

NUECES RIVER BASIN

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08197500 Frio River below Dry Frio River near Uvalde, Tex.

LOCATION.--Lat 29°14'44", long 99°40'27", Uvalde County, on right bank 1.1 mile (1.8 km) upstream from Farm Road 1023, 5.7 miles (9.2 km) downstream from Dry Frio River, 6.3 miles (10.1 km) downstream from bridge on U.S. Highway 90, and 7.2 miles (11.6 km) northeast of Uvalde.

DRAINAGE AREA.--661 mi² (1,712 km²).

PERIOD OF RECORD.--September 1952 to current year. Sum of records published as Frio River at Knippa and Dry Frio River at Knippa for period September 1952 to September 1953 is equivalent to record for this station.

GAGE.--Water-stage recorder. Datum of gage is 882.47 ft (268.977 m) above mean sea level.

AVERAGE DISCHARGE.--24 years, 26.6 ft³/s (0.753 m³/s), 19,270 acre-ft/yr (23.8 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 12,500 ft³/s (354 m³/s) May 7 (gage height, 11.45 ft or 3.490 m); no flow most of time. Period of record: Maximum discharge, 88,500 ft³/s (2,510 m³/s) Aug. 13, 1966 (gage height, 23.88 ft or 7.279 m, from floodmark), from rating curve extended above 12,000 ft³/s (340 m³/s) on basis of slope-area measurements of 24,400, 53,000, and 88,500 ft³/s (691, 1,500, and 2,510 m³/s); no flow most of time each year. Maximum stage since at least 1887, about 35 ft (10.7 m) in 1894. Flood of July 1, 1932, reached a stage of about 30 ft (9.1 m). A higher flood than that of 1894 occurred prior to 1887. Above information by local residents.

REMARKS.--Records good. Part of flow of Frio River enters the Edwards and associated limestones in the Balcones Fault Zone which crosses basin between Concan (station 08195000) and this station. Most of low flow enters this formation. Many diversions for irrigation above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								0		0	108	0
2								0		0	91	0
3								0		0	74	8.3
4								0		0	60	3.4
5								0		0	48	.36
6								0		0	34	.17
7								2530		0	20	.10
8								473		0	9.4	.04
9								50		0	3.1	0
10								5.2		0	.82	0
11								.69		75	.30	0
12								.24		192	.13	0
13								0		156	.06	0
14								0		901	.01	0
15								0		735	0	0
16								0		3070	0	0
17								0		2050	0	0
18								0		1300	0	0
19								0		806	0	1.3
20								0		600	0	.54
21								0		502	0	.17
22								0		443	0	.07
23								0		374	0	.01
24								0		362	0	0
25								0		285	0	0
26								0		252	0	0
27								0		221	0	0
28								0		192	0	0
29								0		165	0	0
30								0		142	0	0
31		---			---		---	0	---	124	0	---
TOTAL	0	0	0	0	0	0	0	3059.13	0	12947	448.82	14.46
MEAN	0	0	0	0	0	0	0	98.7	0	418	14.5	.48
MAX	0	0	0	0	0	0	0	2530	0	3070	108	8.3
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	0	6070	0	25680	890	29
CAL YR 1975	TOTAL	0.00	MEAN	.000	MAX	.00	MIN	0	AC-FT	0		
WTR YR 1976	TOTAL	16469.41	MEAN	45.0	MAX	3070	MIN	0	AC-FT	32670		

PEAK DISCHARGE (BASE, 1,000 FT³/S)

DATE	TIME	G.HT.	DISCHARGE
5-7	1230	11.45	12,500
7-14	0630	5.83	1,290
7-16	1130	8.62	5,290

NUECES RIVER BASIN

08198000 Sabinal River near Sabinal, Tex.

LOCATION.--Lat 29°29'35", long 99°29'49", Uvalde County, on right bank 108 ft (33 m) upstream from concrete dam, 2.3 miles (3.7 km) downstream from mouth of Onion Creek, and 12.5 miles (20.1 km) north of Sabinal.

DRAINAGE AREA.--206 mi² (534 km²).

PERIOD OF RECORD.--Discharge: October 1942 to current year.

Water quality: Chemical, biochemical, and pesticide analyses: January 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,131.20 ft (344.790 m) above mean sea level. Prior to Apr. 9, 1971, at site 0.3 mile (0.5 km) downstream at same datum.

AVERAGE DISCHARGE.--34 years, 50.0 ft³/s (1.416 m³/s), 3.30 in/yr (84 mm/yr), 36,220 acre-ft/yr (44.7 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 14,300 ft³/s (405 m³/s) July 16 (gage height, 14.70 ft or 4.481 m); minimum, 5.6 ft³/s (0.16 m³/s) Mar. 31, Apr. 1, 2.

Period of record: Maximum discharge, 55,200 ft³/s (1,560 m³/s) June 17, 1958 (gage height, 28.3 ft or 8.63 m, from floodmark at present site), from rating curve extended above 6,900 ft³/s (195 m³/s) on basis of slope-area measurement of 55,200 ft³/s (1,560 m³/s); no flow at times.

Maximum stage since at least 1892, about 33 ft (10.1 m) July 2, 1932, from information by local residents. There is a legend that a flood in the middle 1800's reached a stage of nearly 63 ft (19.2 m), see flood history for station 08198500.

REMARKS.--Discharge records good. Several small diversions above station for irrigation.

REVISIONS (WATER YEARS).--WSP 1312: 1943(M), 1944(M), 1947(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	30	20	20	16	12	6.1	58	76	48	320	99
2	23	31	21	19	15	12	5.8	54	73	46	295	106
3	22	35	22	18	15	11	8.9	48	71	43	275	154
4	24	33	23	18	16	11	437	47	68	56	270	122
5	24	32	23	18	16	9.9	63	56	66	316	254	108
6	24	29	21	19	14	9.6	51	53	72	139	240	98
7	23	26	20	18	14	11	43	1880	65	119	228	93
8	24	26	19	17	15	13	37	343	63	109	215	93
9	24	26	20	18	15	12	32	240	61	118	205	91
10	24	24	21	19	16	12	30	205	59	164	195	86
11	23	24	20	19	16	12	29	181	56	266	185	84
12	23	23	20	18	14	12	27	164	55	251	178	85
13	23	22	20	18	14	9.8	24	166	53	390	174	80
14	22	22	19	17	14	10	24	150	51	601	169	78
15	21	24	18	16	13	10	26	146	47	820	161	81
16	31	23	18	17	13	10	46	154	47	6760	154	79
17	46	23	18	17	14	9.6	43	145	50	1460	150	76
18	34	22	18	17	13	8.9	76	150	49	1060	146	73
19	30	22	18	17	13	9.2	47	136	48	882	141	83
20	29	21	19	17	13	9.2	50	141	47	769	136	83
21	28	21	19	16	13	7.2	48	139	44	707	131	78
22	26	22	19	17	13	7.4	46	125	42	655	127	73
23	26	22	18	17	13	7.5	46	116	39	594	122	71
24	26	22	29	17	13	9.1	45	110	38	548	118	69
25	35	21	28	17	13	9.6	54	106	52	513	113	67
26	45	20	26	16	13	9.3	55	119	44	474	114	67
27	45	21	23	15	13	7.3	53	106	43	438	114	67
28	39	21	21	16	13	6.9	52	97	45	412	108	80
29	34	22	20	16	12	7.3	63	94	54	386	109	69
30	34	21	20	16	---	6.7	63	96	50	363	107	67
31	32	---	20	16	---	6.0	---	87	---	338	104	---
TOTAL	888	731	641	536	405	298.5	1630.8	5712	1628	19845	5358	2560
MEAN	28.6	24.4	20.7	17.3	14.0	9.63	54.4	184	54.3	640	173	85.3
MAX	46	35	29	20	16	13	437	1880	76	6760	320	154
MIN	21	20	18	15	12	6.0	5.8	47	38	43	104	67
CFSM	.14	.12	.10	.08	.07	.05	.26	.89	.26	3.11	.84	.41
IN.	.16	.13	.12	.10	.07	.05	.29	1.03	.29	3.58	.97	.46
AC-FT	1760	1450	1270	1060	803	592	3230	11330	3230	39360	10630	5080
CAL YR 1975 TOTAL	19714.0			MEAN 54.0	MAX 147	MIN 18	CFSM .26	IN 3.56	AC-FT 39100			
WTR YR 1976 TOTAL	40233.3			MEAN 110	MAX 6760	MIN 5.8	CFSM .53	IN 7.27	AC-FT 79800			

PEAK DISCHARGE (BASE, 300 FT³/S)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
4-4	0330	7.84	2,450	7-13	2200	6.51	834
5-7	0800	9.94	6,580	7-16	0630	14.70	14,300
7-5	0800	7.15	1,520				

NUECES RIVER BASIN

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08198000 Sabinal River near Sabinal, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO- MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)	IMME- DIATE COLI- FORM (COL. PER 100 ML)	FECAL COLI- FORM (COL. PER 100 ML)
NOV 18...	1420	23	477	7.9	21.0	0	0	10.0	111	.3	17	12
JAN 12...	1530	18	493	8.0	13.0	0	0	11.1	105	.2	4	1
MAR 08...	1510	13	475	7.8	18.5	0	0	10.7	114	.5	18	10
MAY 03...	1500	46	458	7.5	22.0	0	0	9.6	109	.4	12	4
JUL 27...	0835	444	516	7.8	24.0	0	2	8.0	98	.0	270	48
SEP 27...	1535	67	480	7.8	26.0	0	0	9.4	118	.1	80	13

DATE	STREP- TOCOCCI (COL- ONIES PER 100 ML)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
NOV 18...	37	250	42	75	14	8.6	.2	1.1	248	0	29	15
JAN 12...	3	250	36	75	14	8.6	.2	.9	256	0	32	15
MAR 08...	10	230	37	70	14	8.3	.2	1.1	238	0	28	15
MAY 03...	20	230	29	69	13	7.4	.2	1.1	240	0	26	13
JUL 27...	110	260	27	83	12	8.5	.2	1.2	280	0	18	14
SEP 27...	45	230	33	72	13	9.1	.3	1.2	244	0	22	15

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NON- FILT- RABLE RESIDUE (MG/L)	VOL. NON- FILT- RABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
NOV 18...	.3	12	277	0	0	.68	.00	.08	.13	.01	2.2
JAN 12...	.1	11	243	0	0	.93	.00	.01	.11	.01	1.0
MAR 08...	.3	12	266	0	0	.53	.10	.00	.11	.00	3.4
MAY 03...	.3	11	254	1	0	.20	.00	.01	.11	.01	.9
JUL 27...	.3	14	289	6	2	1.2	.00	.01	.09	.01	1.7
SEP 27...	.2	14	267	1	0	1.2	.00	.00	.13	.01	2.4

NUECES RIVER BASIN

08198000 Sabinal River near Sabinal, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		DIS- SOLVED ALUM- INUM (AL) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BARIUM (BA) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
DATE	TIME									
JAN. 12...	1530	10	0	--	60	0	0	0	0	0
SEP. 27...	1535	--	1	0	--	2	4	--	0	0

		DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	DIS- SOLVED SELE- NIUM (SE) (UG/L)	DIS- SOLVED SILVER (AG) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)
DATE	TIME									
JAN. 12...		0	0	0	.1	0	--	--	500	10
SFP. 27...		0	--	0	.0	--	1	0	--	20

		POLY- CHLO- -INATED NAPHTH- ALENE	TOTAL ALDRIN (UG/L)	TOTAL CHLOR- DANE (UG/L)	TOTAL DDT (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI- AZINON (UG/L)	TOTAL DI- FLORIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)
DATE	TIME										
JAN. 12...	1530	.0	--	.00	.0	.00	.00	.00	.00	.00	.00
SEP. 27...	1535	.0	.00	.00	.0	.00	.00	.00	.00	.00	.00

		TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL THI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
DATE	TIME											
JAN. 12...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00
SEP. 27...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00

NUECES RIVER BASIN

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08198500 Sabinal River at Sabinal, Tex.

LOCATION.--Lat 29°18'47", Long 99°28'46", Uvalde County, on left bank 80 ft (24 m) downstream from bridge on U.S. Highway 90, 1,100 ft (335 m) downstream from Southern Pacific Lines railroad bridge, 0.8 mile (1.3 km) west of Sabinal, and 5.8 miles (9.3 km) upstream from Rancho Creek.

DRAINAGE AREA.--247 mi² (640 km²).

PERIOD OF RECORD.--September 1952 to current year.

GAGE.--Water-stage recorder. Datum of gage is 882.17 ft (268.885 m) above mean sea level. Prior to July 29, 1958, nonrecording gage, and July 29, 1958, to Mar. 19, 1964, water-stage recorder at site 80 ft (24 m) upstream at same datum.

AVERAGE DISCHARGE.--24 years, 29.7 ft³/s (0.841 m³/s), 21,520 acre-ft/yr (26.5 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 15,700 ft³/s (445 m³/s) July 16 (gage height, 19.85 ft or 6.050 m); minimum, 0.46 ft³/s (0.013 m³/s) Mar. 6, 7.
Period of record: Maximum discharge, 73,300 ft³/s (2,080 m³/s) June 17, 1958 (gage height, 33.3 ft or 10.15 m); no flow at times most years.
Maximum stage since at least 1890, 40 ft (12.2 m) Aug. 24, 1919, from information by local residents. Flood of July 2, 1932, reached a stage of 31 ft (9.4 m), discharge, 60,000 ft³/s (1,700 m³/s), from information by Southern Pacific Lines. There is a legend that a flood in 1858 covered the townsite of Sabinal. This would call for a stage of 70 to 80 ft (21.3 to 24.4 m) which seems unlikely. However, it is possible that a flood occurred in 1858 that covered part of the townsite and was higher than any flood since that date.

REMARKS.--Records good. Several small diversions for irrigation above station. Most of low flow of the Sabinal River enters the Edwards and associated limestones in the Balcones Fault Zone which crosses basin upstream from this station and downstream from Sabinal River near Sabinal (station 08198000).

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	1.1	1.1	1.1	.95	.77	.55	.73	5.3	3.5	223	12
2	1.2	1.1	1.1	1.1	.95	.72	.55	.72	5.4	3.5	202	11
3	1.2	1.1	1.1	1.1	.95	.52	.71	.68	5.5	3.4	193	11
4	1.2	1.1	1.1	1.1	.95	.55	5.3	.67	5.3	3.3	179	15
5	1.2	1.1	1.1	1.2	.95	.54	1.7	.78	5.7	4.2	154	20
6	1.2	1.1	1.1	1.2	.95	.46	.93	.57	5.7	16	145	15
7	1.2	1.1	1.1	1.2	.95	.45	1.0	13.0	5.1	14	133	12
8	1.2	1.1	1.1	1.2	.95	.52	1.1	413	4.1	14	123	10
9	1.2	1.1	1.1	1.2	.95	.57	1.1	190	4.2	9.8	114	9.3
10	1.2	1.1	1.1	1.2	1.1	.57	1.2	137	4.6	10	105	8.6
11	1.1	1.1	1.1	1.2	1.1	.57	1.2	110	4.5	57	99	8.2
12	1.1	1.1	1.1	1.2	1.1	.55	1.2	57	4.4	127	91	7.8
13	1.1	1.1	1.1	1.2	.95	.52	1.2	79	4.2	132	88	7.3
14	1.1	1.1	1.1	1.2	.95	.7	1.2	55	4.2	584	81	6.3
15	1.1	1.1	.94	1.1	.95	.72	1.3	53	4.2	565	74	6.6
16	1.1	1.1	.95	1.1	.95	.55	1.2	41	4.2	765	67	7.0
17	1.1	1.1	.95	1.1	.95	.72	1.3	34	4.2	1730	62	6.6
18	1.1	1.1	.95	1.1	.95	.77	1.5	27	4.2	1140	57	6.3
19	.97	1.1	.95	1.1	.95	.73	1.1	27	4.2	952	53	14
20	.93	1.1	1.1	1.1	.95	.55	1.1	27	4.1	410	45	11
21	.55	1.1	.95	1.1	.55	.53	.95	32	3.9	718	41	9.2
22	.55	1.1	.95	1.1	.75	.55	.95	25	3.5	653	35	7.2
23	.55	1.1	.95	1.1	.75	.95	.95	21	3.4	572	30	6.5
24	.55	1.1	1.1	1.1	.77	.75	.95	15	3.5	508	26	6.3
25	1.1	1.1	1.1	1.1	.75	.57	.97	11	5.1	455	22	6.1
26	.55	1.1	1.1	1.1	.75	.58	.78	14	3.5	411	19	5.8
27	.55	1.1	1.1	1.1	.55	.55	.77	13	3.5	370	17	5.5
28	.55	1.1	1.1	1.1	.55	.73	.77	12	3.5	331	15	5.1
29	.55	1.1	1.1	1.1	.55	.55	.75	7.4	3.5	270	14	6.2
30	.55	1.1	1.1	1.1	---	.77	.77	1.4	3.5	267	14	5.9
31	.55	---	1.1	1.1	---	.55	---	7.2	---	245	12	---
TOTAL	31.13	31.13	31.13	31.13	27.05	17.41	34.62	2703.75	134.2	18704.5	2521	273.3
MEAN	1.13	1.13	1.13	1.13	.95	.65	1.13	7.62	4.47	613	31.3	9.11
MAX	1.1	1.1	1.1	1.1	1.1	.77	.95	1309	6.3	7660	223	20
MIN	.55	.55	.55	1.1	.75	.55	.95	.57	3.5	3.3	12	5.5
NO-FLOW	0	0	0	0	0	0	0	0	0	0	0	542

NOV 1975 TO OCT 1976: 249.45 249.45 249.45 249.45 249.45 249.45 249.45 249.45 249.45 249.45 249.45 249.45 249.45
OCT 1976 TO SEP 1977: 249.45 249.45 249.45 249.45 249.45 249.45 249.45 249.45 249.45 249.45 249.45 249.45 249.45

PEAK DISCHARGE (BASE, 100 FT³/S)

DATE	TIME	G.H.T.	DISCHARGE
5-7	1300	13.82	6,070
7-14	0800	7.70	824
7-16	1100	19.85	15,700

NUECES RIVER BASIN

08200000 Hondo Creek near Tarpley, Tex.

LOCATION.--Lat 29°34'10", long 99°14'47", Medina County, on left bank 460 ft (140 m) downstream from bridge on Ranch Road 462, 6.3 miles (10.1 km) southeast of Tarpley, and 16.6 miles (26.7 km) northwest of Hondo.

DRAINAGE AREA.--86.2 mi² (223.3 km²).

PERIOD OF RECORD.--Discharge: August 1952 to current year.

Water quality: Chemical, biochemical, and pesticide analyses: January 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,169.1 ft (356.34 m) above mean sea level (Magnolia Oil Co. bench mark).

AVERAGE DISCHARGE.--24 years, 36.9 ft³/s (1.045 m³/s), 5.81 in/yr (148 mm/yr), 26,730 acre-ft/yr (33.0 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 10,600 ft³/s (300 m³/s) May 7 (gage height, 11.38 ft or 3.469 m), from rating curve extended as explained below; minimum, 2.5 ft³/s (0.071 m³/s) Jan. 8.

Period of record: Maximum discharge, 69,800 ft³/s (1,980 m³/s) June 17, 1958 (gage height, 28.2 ft or 8.60 m, from floodmark), from rating curve extended above 2,600 ft³/s (73.6 m³/s) on basis of slope-area measurements of 18,600 and 69,800 ft³/s (527 and 1,980 m³/s); no flow at times in 1952-57, 1962-64, 1967, and 1971.

Maximum stage since at least 1907, that of June 17, 1958. Flood in July 1932, reached a stage of about 26 ft or 7.9 m (discharge, 58,500 ft³/s or 1,660 m³/s), from information by local resident.

REMARKS.--Discharge records good. Several small diversions for irrigation above station.

REVISIONS (WATER YEARS).--WSP 1712: 1957.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	11	13	5.0	7.0	5.0	3.5	2.9	85	70	23	49	19		
2	1	14	5.0	6.5	5.0	3.5	2.9	78	68	22	47	225		
3	1	14	5.0	6.2	5.0	3.5	5.3	73	62	21	46	62		
4	1	14	5.3	6.2	5.0	3.4	135	68	59	23	45	31		
5	1	13	5.0	6.2	5.0	3.3	365	97	62	26	43	34		
6	1	13	5.0	6.2	5.0	3.1	110	70	57	40	39	29		
7	1	12	5.0	5.9	5.0	4.1	90	1660	53	28	36	26		
8	1	12	5.0	5.5	5.0	5.0	68	445	53	26	35	24		
9	1	12	5.0	5.9	5.0	3.5	59	197	49	34	34	23		
10	5.0	12	5.0	6.2	5.0	3.5	52	338	44	46	32	21		
11	5.0	12	5.0	5.9	5.0	3.2	46	290	45	85	31	20		
12	5.3	11	5.0	5.5	5.0	3.0	42	262	44	59	31	18		
13	5.3	11	5.0	5.6	5.0	2.4	41	234	43	62	29	17		
14	5.0	11	5.0	5.3	5.0	3.3	40	199	40	73	28	19		
15	5.0	11	5.0	5.6	4.7	3.5	43	180	39	86	28	20		
16	14	11	5.3	5.6	5.0	3.1	126	168	38	136	27	20		
17	11	11	5.0	5.3	5.0	3.1	75	152	38	132	26	20		
18	1	10	7.9	5.3	4.7	3.1	91	138	37	122	27	20		
19	5.0	10	5.0	5.3	4.4	3.3	88	130	37	114	26	35		
20	5.3	10	5.0	5.9	4.7	3.3	114	134	35	104	25	33		
21	5.0	10	5.0	5.6	4.4	2.4	100	122	32	102	24	25		
22	5.0	10	7.9	5.6	3.5	3.3	46	114	31	96	24	23		
23	5.0	9.6	7.9	5.6	3.5	3.5	90	108	29	85	23	23		
24	5.0	9.6	17	5.6	3.5	3.3	108	102	28	79	23	22		
25	25	7.0	14	5.9	3.0	4.4	121	97	34	74	22	21		
26	27	9.3	5.0	5.0	3.0	3.5	88	130	30	70	21	23		
27	18	9.3	5.0	5.0	3.0	2.9	82	92	23	65	22	22		
28	18	9.0	5.0	5.3	3.0	3.1	82	85	26	60	20	34		
29	14	10	7.0	5.3	3.0	3.0	118	79	25	57	27	23		
30	14	9.0	7.0	5.3	---	2.9	97	78	24	53	22	22		
31	14	---	7.0	5.0	---	2.9	---	78	---	53	20	---		
TOTAL	274.3	333.7	262.5	177.1	132.4	108.5	2573.1	6323	1260	2057	932	954		
MEAN	12.1	11.1	9.11	5.71	4.57	3.5	85.8	204	42.0	66.4	30.1	31.8		
MAX	35	14	14	7.0	5.0	3.5	365	1660	70	136	49	225		
MIN	5.0	5.0	7.0	5.0	3.0	2.9	2.9	68	24	21	20	17		
CFSD	1.19	1.13	1.11	0.7	0.6	0.6	1.00	2.37	.49	.77	.35	.37		
IN	1.15	1.11	1.10	0.68	0.60	0.6	1.11	2.73	.54	.89	.40	.41		
AC-FT	742	881	560	391	263	215	5100	12540	2500	4040	1850	1890		
WATER YEAR 1975	TOTAL	2333.7	MEAN	53.9	MAX	794	MIN	2.9	CFSD	.74	IN	10.07	AC-FT	46290
WATER YEAR 1976	TOTAL	1500.0	MEAN	42.4	MAX	1660	MIN	2.9	CFSD	.49	IN	6.69	AC-FT	30760

PEAK DISCHARGE (BASE, 500 FT³/S)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
4-4	0500	3.76	842	5-7	0500	11.38	10,600
4-5	0400	3.96	982	9-2	0300	4.10	1,090

08200000 Hondo Creek near Tarpley, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

WATER QUALITY DATA - STATION 101												
DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	DIOCHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	IMMEDIATE COLIFORM (COL. PER 100 ML)	FECAL COLIFORM (COL. PER 100 ML)
NOV.												
1-...	1215	12	438	7.5	20.0	0	0	8.8	96	.1	68	29
JAN.												
12-...	1315	5.7	463	7.4	12.0	0	0	11.2	104	.2	8	2
MAR.												
14-...	1300	5.6	435	8.0	18.0	0	0	10.0	105	.2	10	4
MAY												
13-...	1250	85	428	7.7	21.0	0	0	9.4	104	.2	34	15
JULY												
26-...	1345	75	414	7.8	28.0	0	0	8.3	106	.4	27	5
SEP.												
27-...	1315	21	414	7.7	26.0	0	0	9.2	115	.2	110	17
DATE	TIME	STREPTOCOCCI (COLONIES PER 100 ML)	NITRATE-NITRITES (MG/L)	DISSOLVED CALCIUM (MG/L)	DISSOLVED MAGNESIUM (MG/L)	DISSOLVED SODIUM (MG/L)	DISSOLVED POTASSIUM (MG/L)	DISSOLVED PHOSPHATE (MG/L)	BICARBONATE (MG/L)	CARBONATE (MG/L)	DISSOLVED SULFATE (MG/L)	DISSOLVED CHLORIDE (MG/L)
NOV.												
1-...	11	23	49	72	12	8.7	.3	1.1	220	0	36	13
JAN.												
12-...	17	23	39	72	11	8.5	.2	1.0	228	0	36	14
MAR.												
14-...	11	21	52	64	12	8.3	.3	1.1	192	0	41	16
MAY												
13-...	4	21	27	68	10	8.1	.2	1.0	224	0	28	9.5
JULY												
26-...	7	206	24	64	18	7.0	.2	1.1	216	0	24	9.9
SEP.												
27-...	3	200	34	64	10	7.8	.2	1.1	234	0	28	11
DATE	TIME	DISSOLVED FLOUR (MG/L)	DISSOLVED SILICA (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NON-FILTERABLE RESIDUE (MG/L)	VOL. NON-FILTERABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
NOV.												
1-...		.2	11	262	1	1	.32	.00	.00	.15	.00	8.8
JAN.												
12-...		.2	11	267	0	0	.64	.00	.00	.18	.00	1.0
MAR.												
14-...		.3	11	240	0	0	.49	.00	.00	.09	.00	3.6
MAY												
13-...		.2	9.6	243	1	1	.12	.00	.00	.15	.01	2.9
JULY												
26-...		.3	12	235	2	1	.45	.00	.01	.19	.00	1.9
SEP.												
27-...		.3	12	235	1	1	.25	.00	.01	1.3	.01	2.6

NUECES RIVER BASIN

08200000 Hondo Creek near Tarpley, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		DIS- SOLVED ALUM- INUM (AL) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BARIUM (BA) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)			
DATE	TIME												
JAN. 12...	1315	0	0	--	50	0	0	0	0	0			
SEP. 27...	1315	--	1	100	--	1	2	--	0	0			
		DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	DIS- SOLVED SELE- NIUM (SE) (UG/L)	DIS- SOLVED SILVER (AG) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)			
DATE	TIME												
JAN. 12...		0	0	0	.2	0	--	--	690	10			
SFP. 27...		4	--	0	.0	--	0	0	--	20			
		POLY- CHLO- RINATED NAPH- THA- LENES (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLOR- DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)		
DATE	TIME												
JAN. 12...	1315	.0	--	.00	.0	.00	.00	.00	.00	.00	.00		
SEP. 27...	1315	.0	.00	.00	.0	.00	.00	.00	.00	.00	.00		
		TOTAL HEPTA- CHLOR (UG/L)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
DATE	TIME												
JAN. 12...		.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00	.00
SEP. 27...		.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00	.00

NUECES RIVER BASIN

401

08200700 Hondo Creek at King Waterhole near Hondo, Tex.

LOCATION.--Lat 29°23'26", long 99°09'04", Medina County, on left bank 0.3 mile (0.5 km) downstream from county road low-water crossing, 3.1 miles (5.0 km) north of Hondo, and 7.8 miles (12.6 km) upstream from Verde Creek.

DRAINAGE AREA.--142 mi² (368 km²).

PERIOD OF RECORD.--October 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 897.87 ft (273.671 m) above mean sea level.

AVERAGE DISCHARGE.--16 years, 14.7 ft³/s (0.416 m³/s), 10,650 acre-ft/yr (13.1 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 14,400 ft³/s (408 m³/s) May 7 (gage height, 9.68 ft or 2.950 m), from rating curve extended as explained below; no flow at times.

Period of record: Maximum discharge, 46,900 ft³/s (1,330 m³/s) July 15, 1973 (gage height, 16.4 ft or 5.00 m, from floodmark), from rating curve extended above 9,800 ft³/s (278 m³/s) on basis of contracted-opening measurement of peak flow; no flow most of time. Maximum stage since at least 1875, 21 ft (6.4 m) in September 1919, from information by local resident. Other floods occurred in July 1932, stage 18 ft (5.5 m) and June 17, 1958, stage 17 ft (5.2 m).

REMARKS.--Records good except those below 4 ft³/s (0.11 m³/s), which are fair. Most of the low flow of Hondo Creek enters Edwards and associated limestones in the Balcones Fault Zone which crosses basin between Tarpley (station 08200000) and this station. Small diversions above station for irrigation, amounts unknown.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	.05	.02	.04	.05	.03	.10	.26	.13	.08	.05	.10
2	.10	.07	.02	.04	.05	.03	.10	.25	.12	.07	.05	.08
3	.10	.07	.01	.03	.04	.03	.10	.24	.11	.07	.05	.07
4	.10	.06	.01	.03	.04	.03	.10	.24	.11	.13	.04	.07
5	.09	.06	.01	.03	.04	.03	136	.23	.10	.20	.04	.06
6	.09	.06	.01	.03	.04	.03	1.7	.23	.30	.11	.04	.06
7	.09	.05	.01	.02	.04	.03	1.1	2250	.24	.07	.04	.05
8	.09	.05	.01	.02	.04	.03	.90	180	.21	.07	.03	.05
9	.09	.05	.01	.02	.04	.03	.70	72	.18	.06	.03	.05
10	.09	.04	.01	.02	.04	.03	.60	48	.17	.06	.03	.04
11	.09	.04	.01	.02	.04	.03	.52	20	.16	.06	.03	.04
12	.09	.04	.01	.02	.04	.03	.45	6.7	.15	.50	.03	.04
13	.09	.04	.01	.01	.04	.03	.41	2.7	.14	1.0	.02	.04
14	.09	.03	.01	.01	.03	.03	.40	2.0	.13	.65	.02	.03
15	.20	.03	.01	.01	.03	.03	.38	1.5	.12	.50	.02	.03
16	.14	.03	.01	.01	.03	.03	.36	1.2	.12	.40	.02	.03
17	.14	.03	.01	.01	.03	.03	.17	.95	.11	.32	.02	.03
18	.14	.03	.01	.01	.03	.03	1090	.80	.20	.27	.02	.03
19	.13	.03	0	0	.03	.03	.53	1.5	.17	.22	.02	.03
20	.12	.03	0	0	.03	.03	.47	1.0	.15	.18	.02	.20
21	.11	.02	0	.10	.03	.03	.43	.70	.13	.16	.02	.11
22	.11	.02	0	.09	.03	.03	.40	.45	.12	.14	.01	.08
23	.10	.02	0	.08	.03	.15	.38	.35	.11	.12	.01	.06
24	.10	.02	.20	.04	.03	.14	.35	.31	.11	.11	.01	.05
25	.30	.02	.14	.07	.03	.14	.33	.26	.10	.10	.01	.04
26	.22	.02	.10	.07	.03	.13	.31	.23	.10	.09	.01	.04
27	.16	.02	.08	.06	.03	.12	.30	.20	.09	.08	.01	.03
28	.12	.02	.07	.06	.03	.12	.29	.18	.09	.07	.01	.03
29	.10	.02	.06	.05	.03	.11	.28	.17	.08	.07	.20	.03
30	.09	.02	.05	.05	---	.11	.27	.16	.08	.06	.14	.03
31	.08	---	.05	.05	---	.11	---	.14	---	.06	.12	---
TOTAL	3,688	1,112	.95	1.14	1,662	1,79	1255.26	2572.96	4.13	6.08	1.17	1.63
MEAN	.12	.037	.031	.037	.035	.058	41.8	83.0	.14	.20	.038	.054
MAX	.30	.08	.20	.10	.05	.15	1070	2250	.30	1.0	.20	.20
MIN	.04	.02	0	0	.03	.03	.10	.14	.09	.06	.01	.03
AC-FT	7.3	2.2	1.9	2.3	2.6	3.6	2490	5100	8.2	12	2.3	3.2

CAL YR 1975 TOTAL 1756.42 MEAN 4.81 MAX 417 MIN 0 AC-FT 3480
 1976 TOTAL 3688.43 MEAN 10.5 MAX 2250 MIN 0 AC-FT 7640

PEAK DISCHARGE (BASE, 500 FT³/S)

DATE	TIME	G.HT.	DISCHARGE
4-5	0900	3.51	697
4-18	0200	6.65	5,420
5-7	0830	9.68	14,400

NUECES RIVER BASIN

08201500 Seco Creek at Miller Ranch near Utopia, Tex.

LOCATION.--Lat 29°34'23", long 99°24'10", Medina County, on right bank 200 ft (61 m) upstream from county road crossing, 4.5 miles (7.2 km) downstream from Cascade Creek, and 7.9 miles (12.7 km) southeast of Utopia.

DRAINAGE AREA.--43.1 mi² (111.6 km²).

PERIOD OF RECORD.--Discharge: May 1961 to current year.

Water quality: Chemical, biochemical, and pesticide analyses: January 1974 to current year.

GAGE.--Water-stage recorder, crest-stage gages, and concrete control. Datum of gage is 1,265.8 ft (385.82 m) above mean sea level, adjustment unknown (Magnolia Oil Co. bench mark).

AVERAGE DISCHARGE.--15 years, 18.6 ft³/s (0.527 m³/s), 5.86 in/yr (149 mm/yr), 13,480 acre-ft/yr (16.6 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 1,220 ft³/s (34.6 m³/s) May 7 (gage height, 3.90 ft or 1.189 m), from rating curve extended as explained below; minimum, 1.2 ft³/s (0.034 m³/s) for several days.

Period of record: Maximum discharge, 38,500 ft³/s (1,090 m³/s) July 15, 1973 (gage height, 14.4 ft or 4.39 m, from floodmark), from rating curve extended above 910 ft³/s (25.8 m³/s) on basis of flow over and around end of dam field estimate of 14,100 ft³/s (399 m³/s) and slope-area measurement of 52,600 ft³/s (1,490 m³/s); no flow for many days in 1963-64.

Maximum stage since at least 1901, 16.4 ft (5.00 m) June 17, 1958, from floodmarks, discharge, 52,600 ft³/s (1,490 m³/s), by slope-area measurement of peak flow.

REMARKS.--Discharge records good. No known diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.6	5.7	3.1	2.8	1.9	1.6	1.2	22	29	9.7	42	12
2	4.3	6.3	3.1	2.8	2.0	1.6	1.2	21	28	9.0	39	20
3	4.3	6.4	3.1	2.6	2.0	1.5	1.7	19	27	9.0	36	17
4	4.3	5.7	3.2	2.6	2.0	1.3	4.6	19	25	14	35	13
5	4.3	5.3	3.4	2.6	2.1	1.4	34	24	29	14	34	12
6	4.3	5.0	3.3	2.6	2.1	1.3	24	20	26	14	31	11
7	3.9	4.9	3.1	2.5	2.0	1.5	21	323	24	11	30	11
8	3.9	4.9	3.0	2.2	2.0	1.9	20	138	23	12	28	10
9	3.9	4.9	2.8	2.5	2.0	1.6	17	111	21	16	26	9.6
10	3.9	4.3	2.8	2.6	2.0	1.4	16	97	20	25	25	9.6
11	3.9	4.6	2.8	2.6	2.0	1.4	14	88	20	42	24	9.4
12	3.9	4.4	3.0	2.4	2.0	1.5	14	79	20	33	23	9.0
13	3.9	4.0	3.1	2.4	2.0	1.4	13	79	19	44	22	8.9
14	3.4	3.9	3.1	2.3	2.0	1.3	13	66	17	62	21	7.9
15	3.4	3.9	4.3	2.2	1.9	1.3	15	61	17	83	20	7.9
16	6.1	3.9	3.6	2.3	1.9	1.3	34	56	17	340	19	7.9
17	4.2	3.9	3.1	2.2	2.3	1.3	20	52	16	160	19	7.8
18	3.9	3.6	2.8	2.2	1.9	1.2	24	49	16	126	18	7.0
19	3.9	3.6	2.8	2.2	1.7	1.2	23	49	16	108	18	13
20	3.9	3.6	2.8	2.7	1.6	1.3	28	57	15	97	16	9.8
21	3.9	3.4	2.8	2.4	2.1	1.3	26	47	14	87	16	7.9
22	3.9	3.4	2.8	2.2	1.7	1.3	24	43	14	78	15	7.4
23	3.9	3.4	2.6	2.2	1.4	1.3	22	41	13	71	15	7.0
24	3.9	3.4	11	2.3	1.5	1.9	23	40	12	65	15	7.4
25	15	3.4	5.1	2.6	1.5	1.8	25	38	24	59	14	7.4
26	10	3.2	3.7	2.2	1.5	1.5	21	47	15	56	14	7.4
27	8.0	3.1	3.6	2.2	1.6	1.3	19	36	12	53	13	8.0
28	7.4	3.2	3.3	2.2	1.6	1.2	19	34	11	49	12	8.1
29	6.9	3.5	3.0	2.0	1.6	1.2	32	33	11	47	14	6.9
30	6.4	3.3	2.8	2.0	---	1.3	24	31	11	45	12	6.5
31	5.9	---	2.8	2.0	---	1.2	---	31	---	43	12	---
TOTAL	157.4	126.6	105.8	73.6	53.8	43.6	615.1	1851	562	1881.7	678	287.8
MEAN	5.08	4.22	3.41	2.37	1.86	1.41	20.5	59.7	18.7	60.7	21.9	9.59
MAX	15	6.4	11	2.8	2.3	1.9	46	323	29	340	42	20
MIN	3.4	3.1	2.6	2.0	1.4	1.2	1.2	19	11	9.0	12	6.5
CFSM	.12	.10	.08	.05	.04	.03	.48	1.39	.43	1.41	.51	.22
IN.	.14	.11	.09	.06	.05	.04	.53	1.60	.49	1.62	.59	.25
AC-FT	312	251	210	146	107	86	1220	3670	1110	3730	1340	571

CAL YR 1975 TOTAL 7990.2 MEAN 21.9 MAX 187 MIN 2.6 CFSM .51 IN 6.90 AC-FT 15850
WTR YR 1976 TOTAL 6436.4 MEAN 17.6 MAX 340 MIN 1.2 CFSM .41 IN 5.56 AC-FT 12770

PEAK DISCHARGE (BASE, 600 FT³/S).--May 7 (0530) 1,220 ft³/s (3.90 ft); July 16 (0115) 948 ft³/s (3.64 ft).

NUECES RIVER BASIN

403

08201500 Seco Creek at Miller Ranch near Utopia, Tex.--Continued

WATER QUALITY DATA. WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)	IMME- DIATE COLI- FORM (COL. PER 100 ML)	FECAL COLI- FORM (COL. PER 100 ML)
NOV. 18...	1315	1.9	409	8.0	23.0	0	0	9.7	111	.1	74	41
JAN. 12...	1430	1.4	441	8.0	17.0	0	1	10.4	107	.3	1400	460
MAR. 04...	1400	1.4	414	8.2	23.0	0	1	10.5	121	.6	3500	2600
MAY 03...	1355	25	430	7.8	25.0	0	0	9.1	108	.3	17	6
JULY 26...	1500	62	456	7.9	29.5	0	0	8.2	108	.2	32	5
SEP. 27...	1425	7.9	391	7.9	30.5	0	0	9.3	124	.2	48	10

DATE	STREP- TOCOCCT (COL- ONIES PER 100 ML)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
NOV. 18...	160	210	55	64	12	7.8	.2	1.0	188	0	40	13
JAN. 12...	86	230	44	70	12	7.7	.2	.9	220	0	47	14
MAR. 04...	26	190	61	58	12	7.6	.2	1.1	162	0	56	14
MAY 03...	33	210	45	64	12	6.2	.2	1.0	200	0	44	11
JULY 26...	23	230	31	73	11	7.5	.2	1.0	240	0	26	11
SEP. 27...	24	190	44	56	11	7.9	.3	1.1	172	0	37	13

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NON- FILT- RABLE RESIDUE (MG/L)	VOL. NON- FILT- RABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
NOV. 18...	.4	11	242	0	0	.25	.00	.00	.07	.00	--
JAN. 12...	.1	11	272	3	2	.30	.00	.01	.00	.01	3.8
MAR. 04...	.3	11	240	4	2	.49	.00	.00	.18	.00	4.6
MAY 03...	.2	10	247	1	0	.37	.00	.00	.12	.00	1.6
JULY 26...	.2	13	261	4	2	.53	.00	.01	.09	.00	1.7
SEP. 27...	.2	13	224	2	1	.49	.00	.00	1.1	.01	1.6

NUECES RIVER BASIN

08201500 Seco Creek at Miller Ranch near Utopia, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		DIS- SOLVED ALUM- INUM (AL) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BARIUM (BA) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)			
JAN. 12...	1430	10	0	--	60	0	0	0	0	0			
SEP. 27...	1425	--	1	100	--	0	2	--	0	0			
		DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	DIS- SOLVED SELE- NIUM (SE) (UG/L)	DIS- SOLVED SILVER (AG) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)			
JAN. 12...		0	0	10	.3	0	--	--	470	0			
SEP. 27...		0	--	0	.0	--	0	0	--	10			
		POLY- CHLO- RINATED NAPH- THA- LENES (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLOR- DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)		
JAN. 12...	1430	.0	--	.00	.0	.00	.00	.00	.00	.00	.00		
SEP. 27...	1425	.0	.00	.00	.0	.00	.00	.00	.00	.00	.00		
		TOTAL HEPTA- CHLOR (UG/L)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
JAN. 12...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00	.00
SEP. 27...	.00	.00	.00	.00	.00	.00	.00	0	.00	.00	.00	.00	.00

NUECES RIVER BASIN

405

08202700 Seco Creek at Rowe Ranch near D'Hanis, Tex.

LOCATION.--Lat 29°21'43", long 99°17'05", Medina County, on left bank 2.9 miles (4.7 km) north of D'Hanis and 8.0 miles (12.9 km) downstream from Rocky Creek.

DRAINAGE AREA.--168 mi² (435 km²).

PERIOD OF RECORD.--November 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 900.88 ft (274.588 m) above mean sea level. Prior to October 1970, published as "at Crook Ranch, near D'Hanis".

AVERAGE DISCHARGE.--15 years (1961-76), 9.58 ft³/s (0.271 m³/s), 6,940 acre-ft/yr (8.56 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 8,450 ft³/s (239 m³/s) May 7 (gage height, 15.70 ft or 4.785 m, from floodmark); no flow most of time.

Period of record: Maximum discharge, 30,500 ft³/s (864 m³/s) July 15, 1973 (gage height, 26.0 ft or 7.92 m, from floodmark), from rating curve extended above 16,000 ft³/s (453 m³/s) on the basis of slope-area measurement of 35,800 ft³/s (1,010 m³/s); no flow most of time each year.

Maximum stage since at least 1852, 35.7 ft (10.88 m) May 31, 1935, from information by local resident. Other floods occurred Aug. 31, 1894, 33 ft (10.1 m); September 1919, 28 ft (8.5 m); July 2, 1932, 28.2 ft or 8.60 m (discharge, 35,800 ft³/s or 1,010 m³/s, by slope-area measurement); June 17, 1958, 32.4 ft (9.88 m).

REMARKS.--Records fair. All of low flow of Seco Creek enters Edwards and associated limestones in the Balcones Fault Zone which crosses basin between Miller Ranch (station 08201500) and this station. No known diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1												
2							0	0		0		
3							0	0		0		
4							0	0		0		
5							0	0		0		
6							0	0		0		
7							0	1510		0		
8							0	43		0		
9							0	1.8		0		
10							0	.70		0		
11							0	.35		0		
12							0	.35		0		
13							0	2.5		0		
14							0	.47		0		
15							0	.26		.02		
16							0	.15		.62		
17							.12	.07		14		
18							244	.02		1.5		
19							5.3	0		.41		
20							2.9	.03		.12		
21							1.5	.03		.02		
22							.70	0		0		
23							.32	0		0		
24							.09	0		0		
25							0	0		0		
26							0	2.5		0		
27							0	.70		0		
28							0	.18		0		
29							0	0		0		
30							0	0		0		
31		---			---		---	0	---	0		---
TOTAL	0	0	0	0	0	0	254.93	1563.11	0	78.07	0	0
MEAN	0	0	0	0	0	0	8.50	50.4	0	2.52	0	0
MAX	0	0	0	0	0	0	244	1510	0	62	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	506	3100	0	155	0	0
CAL YR 1975	TOTAL	116.24	MEAN	.32	MAX	50	MIN	0	AC-FT	231		
WTR YR 1976	TOTAL	1296.11	MEAN	5.18	MAX	1510	MIN	0	AC-FT	3760		

PEAK DISCHARGE (BASE, 600 FT³/S).--Apr. 18 (0400) 815 ft³/s (9.88 ft); May 7 (0800) 8,450 ft³/s (15.70 ft, from floodmark).

NUECES RIVER BASIN

08205500 Frio River near Derby, Tex.

LOCATION (revised).--Lat 28°44'11", long 99°08'40", Frio County, on right bank 17 ft (5 m) downstream from centerline of railroad tracks, 35 ft (11 m) right of the Missouri Pacific Railroad Co. bridge abutment, 167 ft (51 m) downstream from Interstate Highway 35, 917 ft (280 m) downstream from Leona River, 2.5 miles (4.0 km) south of Derby, and at mile 122.4 (196.9 km).

DRAINAGE AREA.--3,493 mi² (9,047 km²).

PERIOD OF RECORD.--August 1915 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 449.11 ft (136.889 m) above mean sea level. Aug. 1, 1915, to Apr. 21, 1931, nonrecording gage, and Apr. 22, 1931, to Mar. 6, 1940, water-stage recorder at same site and datum. Mar. 7, 1940, to May 4, 1972, water-stage recorder, and May 5 to Nov. 1, 1972, nonrecording gage at site 167 ft (51 m) upstream at same datum.

AVERAGE DISCHARGE.--61 years, 136 ft³/s (3.852 m³/s), 98,530 acre-ft/yr (121 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 5,420 ft³/s (153 m³/s) May 9 (gage height, 9.46 ft or 2.883 m); minimum, 29 ft³/s (0.82 m³/s) Mar. 25, 26.

Period of record: Maximum discharge, 230,000 ft³/s (6,510 m³/s) July 4, 1932 (gage height, 29.45 ft or 8.976 m, from floodmarks), from rating curve extended above 76,000 ft³/s (2,150 m³/s) on basis of slope-area measurement of peak flow; no flow at times most years.

Maximum stage since at least 1860, that of July 4, 1932.

REMARKS.--Records good except those for period of no gage-height record, which are fair. Part of flow of Frio River and its headwater tributaries enters the Edwards and associated limestones in the Balcones Fault Zone upstream from U.S. Highway 90 (see REMARKS for stations 08197500, 08198500, 08200700, and 08202700). Considerable loss of flow into various permeable formations occurs downstream from the Balcones Fault Zone. Many small diversions for irrigation above station.

REVISIONS (WATER YEARS).--WSP 568: 1915-16, 1918-22. WSP 763: Drainage area. WSP 1312: 1917-18(M), 1920-21(M). WSP 1923: 1954.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74	81	77	81	59	45	35	454	163	46	520	128
2	74	79	78	81	58	45	36	222	156	43	476	121
3	75	79	76	81	59	43	37	156	150	40	442	171
4	74	82	72	81	60	42	38	133	141	40	407	493
5	72	83	72	81	61	39	43	124	133	41	378	212
6	71	84	72	81	60	39	562	121	121	44	351	179
7	67	83	76	81	60	39	600	166	116	73	327	148
8	67	83	79	81	59	39	363	966	108	91	298	130
9	62	84	75	80	58	39	227	4470	105	133	272	126
10	57	85	72	79	56	39	137	3710	95	161	252	121
11	56	85	72	80	56	41	106	1010	87	219	233	115
12	56	83	73	80	57	43	90	579	81	231	218	113
13	56	81	74	81	56	42	79	558	76	295	202	110
14	55	77	74	80	54	42	77	583	74	361	192	109
15	55	76	74	78	52	44	76	596	67	538	181	106
16	79	74	74	74	51	44	79	380	67	1060	170	107
17	68	75	72	70	47	42	100	302	66	2180	159	109
18	67	76	72	67	45	43	183	249	75	4640	165	108
19	64	77	72	65	47	46	1180	224	127	4550	189	111
20	64	77	69	63	48	43	3990	221	97	3390	188	144
21	64	78	70	61	47	39	1500	228	76	2390	169	181
22	62	76	70	64	43	36	641	242	66	1680	155	203
23	63	72	70	67	41	34	297	224	61	1310	148	217
24	62	72	70	68	40	34	192	207	58	1100	138	172
25	64	72	71	67	39	31	158	200	55	961	134	147
26	75	72	73	64	40	30	139	228	49	851	129	137
27	89	72	74	60	41	36	128	338	49	731	126	133
28	96	75	78	59	43	42	121	302	53	666	119	136
29	98	74	78	61	46	44	173	271	53	623	113	155
30	89	77	76	60	---	41	517	218	50	589	124	186
31	84	---	78	60	---	38	---	186	---	556	146	---
TOTAL	2172	2344	2283	2236	1483	1244	11904	17868	2675	29653	7121	4628
MEAN	70.1	78.1	73.6	72.1	51.1	40.1	397	576	89.2	957	230	154
MAX	98	85	79	81	61	46	3990	4470	163	4640	520	493
MIN	55	72	69	59	39	30	35	121	49	40	113	106
AC-FT	4310	4650	4530	4440	2940	2470	23610	35440	5310	58820	14120	9180

CAL YR 1975 TOTAL 54150 MEAN 148 MAX 2380 MIN 55 AC-FT 107400
WTR YR 1976 TOTAL 85611 MEAN 234 MAX 4640 MIN 30 AC-FT 169800

PEAK DISCHARGE (BASE, 1,100 FT³/S)

DATE	TIME	G.H.T.	DISCHARGE
4-20	1000	9.10	4,740
5-9	1800	9.46	5,420
7-18	1700	9.36	5,220

NUECES RIVER BASIN

407

08206700 San Miguel Creek near Tilden, Tex.

LOCATION.--Lat 28°35'14", long 98°32'44", McMullen County, on left bank 25 ft (8 m) downstream from State Highway 16, 0.3 mile (0.5 km) upstream from mouth of Bruce Branch, 0.9 mile (1.4 km) downstream from mouth of Far Live Oak Creek, 3 miles (5 km) upstream from San Patricio Creek, 7 miles (11 km) downstream from Clear Creek, 8.7 miles (14.0 km) north of Tilden, and 13 miles (21 km) upstream from mouth.

DRAINAGE AREA.--793 mi² (2,054 km²).

PERIOD OF RECORD.--January 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is 242.95 ft (74.051 m) above mean sea level.

AVERAGE DISCHARGE.--12 years, 63.1 ft³/s (1.787 m³/s), 45,720 acre-ft/yr (56.4 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 3,610 ft³/s (102 m³/s) July 4 (gage height, 16.34 ft or 4.980 m); minimum, 0.04 ft³/s (0.001 m³/s) Sept. 9, 12, 13.

Period of record: Maximum discharge, 13,700 ft³/s (388 m³/s) Sept. 22, 1967 (gage height, 25.99 ft or 7.922 m); no flow at times in 1964-67, 1969-74.

Maximum stage since 1919, 32.6 ft (9.94 m) in 1942; stage of 1919 flood not known, from information by local residents.

REMARKS.--Records good. There are five diversions above station, but amounts are unknown. At times, excess water from Bexar-Medina-Atascosa Counties Water Improvement District No. 1 system enters San Miguel Creek basin via Chacon Creek 52 miles (84 km) upstream (amounts unknown).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	6.4	2.0	3.5	1.8	.41	.30	653	24	23	2.4	.09
2	1.9	4.5	2.0	2.9	2.8	.41	.30	42	21	12	2.1	.09
3	1.8	3.6	2.0	2.5	2.7	.44	.28	36	18	6.0	2.2	.08
4	1.6	2.8	2.2	2.2	2.3	1.2	1.9	26	15	390	1.9	.08
5	1.6	2.8	2.3	2.1	1.9	1.7	2.8	22	13	527	1.7	.08
6	1.6	2.2	2.4	1.9	1.8	1.7	73	1030	12	324	1.4	.06
7	1.6	1.8	2.4	1.6	1.4	2.0	193	2190	10	188	1.3	.06
8	1.4	1.3	2.4	1.4	1.2	3.8	35	2210	9.9	70	1.1	.05
9	1.3	1.3	2.6	1.3	1.0	3.9	22	2060	8.9	447	.85	.05
10	1.3	1.1	3.0	1.3	1.0	3.9	16	1780	7.9	165	.83	.05
11	1.1	.85	3.3	1.2	1.1	8.4	9.6	397	7.3	180	.68	.05
12	.85	.90	6.2	.85	1.1	6.1	6.3	86	6.6	30	.54	.05
13	.80	.85	12	.85	1.1	6.5	4.8	117	6.6	67	.41	.05
14	.73	.85	7.6	.85	1.0	7.5	3.7	991	6.3	155	.41	.06
15	.72	.85	5.6	.85	1.1	4.9	2.7	1010	5.3	128	.41	.05
16	.68	.81	4.8	.85	2.3	3.3	2.1	136	5.2	68	.36	.05
17	.80	.68	3.8	.85	3.4	2.8	1.6	63	4.6	44	5.1	.06
18	1.0	.63	3.3	.85	3.1	2.6	31	46	4.6	43	2.6	.06
19	1.1	.68	3.3	.93	2.1	3.8	229	37	5.0	26	.32	.07
20	1.3	.72	3.0	1.0	1.7	4.0	546	34	8.6	22	.20	31
21	1.3	.72	2.5	1.1	1.3	3.5	844	75	12	17	.19	19
22	1.1	.72	2.2	1.6	1.1	2.6	616	51	7.4	14	.16	8.1
23	.94	.72	1.8	2.0	.84	2.5	206	36	6.1	10	.16	3.0
24	.72	.77	1.6	1.9	.57	2.4	59	32	5.0	8.0	.12	1.3
25	2.8	.92	1.6	1.7	.55	2.3	38	26	4.1	6.7	.12	.68
26	.59	1.6	1.4	1.5	.55	2.0	39	.93	3.8	5.8	.11	15
27	.70	1.1	1.3	1.3	.52	1.3	28	231	4.0	6.5	.11	16
28	.24	1.4	1.3	1.1	.48	.95	19	213	4.2	5.3	.11	22
29	1.0	1.8	1.9	1.8	.45	.67	580	88	3.5	4.0	.10	40
30	.24	2.0	4.3	2.4	---	.54	704	43	7.7	3.2	.09	24
31	12	---	4.1	2.2	---	.34	---	32	---	2.7	.09	---
TOTAL	322.04	46.77	100.2	48.38	42.26	88.46	4314.38	14736	258.1	2998.2	28.17	181.27
MEAN	10.4	1.56	3.23	1.56	1.46	2.85	144	475	8.60	96.7	.91	6.04
MAX	101	6.4	12	3.5	3.4	8.4	844	2210	24	527	5.1	40
MIN	.68	.63	1.3	.85	.45	.34	.28	22	3.5	2.7	.09	.05
AC-FT	639	93	199	96	84	175	8560	29230	512	5950	56	360
CAL YR 1975	TOTAL	26917.48	MEAN	73.7	MAX	9260	MIN	.46	AC-FT	53390		
WTR YR 1976	TOTAL	23164.23	MEAN	63.3	MAX	2210	MIN	.05	AC-FT	45950		

PEAK DISCHARGE (BASE, 900 FT³/S)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
4-21	1700	9.64	1,030	5-15	0500	12.00	1,730
4-29	0900	13.05	2,110	5-26	0700	10.81	1,350
4-30	1800	10.21	1,180	7- 4	2300	16.34	3,610
5- 7	1300	15.04	2,950	7- 6	1900	10.09	1,140
5- 9	2100	13.61	2,330	7- 9	1400	9.94	1,100

NUECES RIVER BASIN

08207000 Frio River at Calliham, Tex.

LOCATION.--Lat 28°29'31", Long 98°20'47", McMullen County, on right bank at upstream side of county bridge, 0.6 mile (1.0 km) upstream from bridge on Farm Road 99, 0.8 mile (1.3 km) north of Calliham, 10.7 miles (17.2 km) downstream from San Miguel Creek, and at mile 20.8 (33.5 km).

DRAINAGE AREA.--5,491 mi² (14,222 km²).

PERIOD OF RECORD.--Discharge: October 1924 to April 1926 (monthly discharge only), April 1932 to current year.

Water quality: Chemical analyses: November 1967 to current year. Water temperatures: November 1967 to current year. Pesticide analyses: October 1974 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 153.47 ft (46.778 m) above mean sea level. Prior to Apr. 30, 1926, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--45 years (1924-25, 1932-76), 244 ft³/s (6.910 m³/s), 176,800 acre-ft/yr (218 hm³/yr).

EXTREMES.--Discharge: Current year: Maximum discharge, 3,210 ft³/s (90.9 m³/s) May 15 (gage height, 20.25 ft or 6.172 m); minimum, 28 ft³/s (0.79 m³/s) Mar. 30.

Period of record: Maximum discharge, 80,200 ft³/s (2,270 m³/s) July 6, 1932 (gage height, 39.2 ft or 11.95 m, from floodmarks), from rating curve extended above 24,000 ft³/s (680 m³/s) on basis of contracted-opening measurement and flow-over-road measurement of 42,400 ft³/s (1,200 m³/s); no flow at times.

Historic: Maximum stage since at least 1870, that of July 6, 1932, from information by local resident.

Water quality: Current year: Maximum daily specific conductance, 2,380 micromhos Mar. 18; minimum daily, 257 micromhos May 10. Maximum water temperatures, 30.5°C Aug. 11; minimum, 8.0°C Jan. 8.

Period of record: Maximum daily specific conductance, 5,750 micromhos Nov. 30, 1968; minimum daily, 104 micromhos Feb. 13, 1969. Maximum water temperatures, 33.0°C July 17, 1971; minimum, 6.0°C Jan. 9, 1970, Jan. 12, 13, 1973.

REMARKS.--Discharge records good. Part of flow of Frio River and its headwater tributaries enter the Edwards and associated limestones in the Balcones Fault Zone which crosses basin upstream from U.S. Highway 90 (see REMARKS for station 08205500 Frio River near Derby). Considerable loss of flow into various permeable formations also occurs downstream from the Balcones Fault Zone. Many small diversions above station for irrigation.

REVISIONS (WATER YEARS).--WSP 788: Drainage area. WSP 2123: 1932.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57	111	56	80	49	29	34	1100	285	51	866	114
2	66	107	58	80	50	29	36	613	243	68	772	114
3	64	66	59	76	48	30	36	357	200	61	693	130
4	63	77	61	74	47	33	36	454	177	56	620	120
5	63	73	61	72	47	34	36	310	166	1630	560	114
6	62	7	63	71	44	35	37	579	157	2370	510	130
7	61	69	61	71	42	35	72	1760	149	1710	457	269
8	59	69	59	71	42	36	125	2740	142	591	406	235
9	58	69	59	69	44	34	79	2100	145	563	359	153
10	56	69	57	69	44	33	163	1760	130	1220	322	138
11	54	63	61	70	42	35	341	1380	120	1330	291	117
12	53	67	63	71	43	34	242	783	114	900	266	114
13	53	65	60	72	41	36	153	1130	109	414	247	109
14	52	66	68	70	40	36	114	1970	102	439	232	106
15	52	65	67	68	39	38	90	3030	95	616	213	104
16	51	65	65	67	40	40	79	2280	90	780	201	104
17	51	64	65	67	40	39	72	1070	83	609	195	102
18	50	62	63	67	41	37	68	770	79	527	186	99
19	62	61	61	66	41	39	129	645	76	556	183	102
20	70	57	61	64	38	38	450	435	79	667	166	247
21	57	56	60	62	36	37	759	322	80	851	166	153
22	56	59	60	60	33	37	1080	335	101	1200	175	198
23	57	59	62	58	33	39	880	276	115	1910	178	239
24	59	60	70	54	35	41	838	249	88	2790	166	178
25	59	60	69	53	34	38	1260	247	72	2780	158	178
26	68	57	64	53	32	35	903	1020	66	2220	148	195
27	147	55	62	54	31	32	466	1200	61	1770	140	291
28	139	54	63	54	30	32	254	571	59	1460	135	175
29	122	54	64	53	30	32	333	469	55	1250	130	277
30	159	55	67	52	---	28	1230	344	50	1100	125	219
31	118	---	73	51	---	29	---	330	---	976	117	---
TOTAL	2208	2063	1942	2019	1156	1080	10395	30639	3487	33465	9383	4824
MEAN	71.2	66.8	62.6	65.1	39.9	34.8	347	988	116	1080	303	161
MAX	159	111	73	80	50	41	1260	3030	285	2790	866	291
MIN	50	54	56	51	30	28	34	247	50	51	117	99
AC-FT	4380	3970	3850	4000	2290	2140	20620	60770	6920	66380	18610	9570
CAL YR 1975	TOTAL	77951	MEAN 214	MAX 7210	MIN 49	AC-FT	154600					
WTR YR 1976	TOTAL	102601	MEAN 280	MAX 3030	MIN 28	AC-FT	203500					

PEAK DISCHARGE (BASE, 2,700 FT³/S)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
5-8	0900	18.95	2,870	7-5	2200	18.36	2,720
5-15	1800	20.25	3,210	7-24	2200	19.31	2,960

08207000 Frio River at Calliham, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO- MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG)	DIS-SOLVED SODIUM (NA) (MG/L)
OCT. 31...	0815	105	1340	8.2	21.5	370	230	110	23	140
NOV. 30...	0730	51	1810	7.9	16.5	560	400	170	33	180
DEC. 31...	1215	63	1850	8.0	13.0	540	390	160	33	190
JAN. 31...	2015	41	1870	8.0	11.5	520	400	150	35	200
FEB. 29...	0700	23	2100	8.0	18.0	570	410	160	41	230
MAR. 24...	1045	40	2250	7.8	19.5	610	430	170	46	250
APR. 30...	0845	1260	346	8.0	19.5	110	29	38	4.6	20
MAY 11...	1748	1080	628	7.6	23.0	180	76	60	8.4	48
JUNE 30...	0755	43	1840	8.1	27.5	510	360	150	34	190
JULY 21...	1130	770	581	7.9	26.5	210	48	64	11	24
AUG. 02...	1900	733	674	8.1	30.0	270	90	83	15	32
SEP. 22...	1115	185	1360	7.9	25.0	420	260	130	24	120

DATE	SODIUM ADSORPTION RATIO	DIS-SOLVED PHOSPHATE (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORINE (F) (MG/L)	DIS-SOLVED SILICA (SiO2) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
OCT. 31...	3.2	6.1	164	0	230	220	.2	11	821
NOV. 30...	3.3	3.4	198	0	280	320	.2	13	1100
DEC. 31...	3.6	3.1	172	0	290	330	.2	13	1100
JAN. 31...	3.8	3.4	150	0	290	370	.5	10	1130
FEB. 29...	4.2	4.4	196	0	290	430	.4	12	1260
MAR. 24...	4.4	5.5	222	0	300	460	.3	13	1350
APR. 30...	.8	5.0	104	0	31	29	.3	11	190
MAY 11...	1.5	7.0	132	0	63	83	.1	14	349
JUNE 30...	3.6	5.8	190	0	240	370	.3	13	1100
JULY 21...	.7	5.5	192	0	33	60	.2	15	307
AUG. 02...	.9	3.0	218	0	53	66	.2	13	373
SEP. 22...	2.5	6.8	195	0	200	220	.3	15	812

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	TEMPERATURE (DEG C)	TOTAL PCB (UG/L)	PCB IN BOTTOM MATERIAL (UG/KG)	POLY- CHLORINATED NAPHTHA- LENES (UG/L)	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL CHLOR- DANE (UG/L)	CHLOR- DANE IN BOTTOM MATERIAL (UG/KG)
JAN 21...	1125	63	12.0	.0	0	--	.00	.0	.0	0
MAR 24...	1045	40	19.5	.0	0	.00	.00	.0	.0	0
MAY 26...	1225	930	25.5	.0	0	.00	.00	.0	.0	0
JUL 21...	1130	770	26.5	.0	0	.00	.00	.0	.0	0

NUECES RIVER BASIN

08207000 Frio River at Calliham, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOTAL DDD (UG/L)	DDD IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDE (UG/L)	DDE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDT (UG/L)	DDT IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	DI- ELDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ENDRIN (UG/L)
JAN 21...	.00	.0	.00	.2	.00	.0	.00	.00	.0	.00
MAR 24...	.00	.0	.00	.0	.00	.0	.00	.00	.0	.00
MAY 26...	.00	.0	.00	.4	.00	.0	.00	.00	.0	.00
JUL 21...	.00	.0	.00	.6	.00	.0	.00	.00	.0	.00

DATE	ENDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ETHION (UG/L)	TOTAL HEPTA- CHLOR (UG/L)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL LINDANE (UG/L)	LINDANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL MALA- THION (UG/L)
JAN 21...	.0	.00	.00	.0	.00	.0	.00	.0	.00
MAR 24...	.0	.00	.00	.0	.00	.0	.00	.0	.00
MAY 26...	.0	.00	.00	.0	.00	.0	.00	.0	.00
JUL 21...	.0	.00	.00	.0	.00	.0	.00	.0	.00

DATE	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL TOX- APHENE (UG/L)	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
JAN 21...	.00	.00	.00	0	0	.00	.00	.00	.00
MAR 24...	.00	.00	.00	0	0	.00	.00	.00	.00
MAY 26...	.00	.00	.00	0	0	.00	.00	.00	.00
JUL 21...	.00	.00	.00	0	0	.00	.00	.00	.00

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

MONTH	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA+MG) (MG/L)
OCT. 1975.....	2208	1770	1060	6350	330	1980	260	1560	520
NOV. 1975.....	2003	1710	1030	5550	320	1730	250	1370	500
DEC. 1975.....	1942	1830	1100	5750	340	1800	270	1420	540
JAN. 1976.....	2019	1780	1070	5840	330	1820	260	1440	530
FEB. 1976.....	1126	1980	1190	3610	370	1140	290	886	580
MAR. 1976.....	1080	2240	1350	3930	430	1250	330	962	660
APR. 1976.....	10395	627	370	10300	96	2700	97	2710	180
MAY 1976.....	30639	551	320	26500	40	6650	85	7040	160
JUNE 1976.....	3487	1580	950	8930	290	2760	230	2210	470
JULY 1976.....	33465	515	300	27000	74	6650	80	7180	140
AUG. 1976.....	9383	864	510	12900	140	3670	130	3290	250
SEPT 1976.....	4824	1210	720	9370	220	2800	180	2340	350
TOTAL	102571	**	**	126000	**	34900	**	32400	**
WTD.AVG.	281.02	772	460	**	130	**	120	**	220

NUECES RIVER BASIN

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08207000 Frio River at Calliham, Tex.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1710	1670	1850	1810	1890	2060	2270	396	1270	1840	517	1410
2	1700	1470	1830	1840	1990	2030	2250	425	1230	1820	600	1440
3	1720	1510	1840	1800	2050	2060	2200	700	1250	1880	693	1450
4	1730	1620	1850	1770	2030	2150	2210	900	1340	1890	683	1460
5	1740	1620	1830	1810	2010	2150	2220	670	1240	302	716	1480
6	1750	1660	1820	1760	1940	2150	2230	798	1280	280	707	1510
7	1680	1660	1930	1740	1960	2170	2000	409	1320	278	757	1400
8	1800	1600	1910	1760	1860	2200	1590	330	1460	649	775	1400
9	1840	1710	1900	1720	1850	2200	1010	260	1600	679	830	1380
10	1850	1710	1920	1760	1910	2200	500	257	1680	480	800	723
11	1850	1640	1900	1740	1880	2210	575	628	1580	477	896	676
12	1870	1710	1880	1750	1900	2240	700	715	1660	498	926	901
13	1840	1730	1840	1710	1900	2300	1000	540	1700	914	949	1110
14	1840	1750	1800	1720	1900	2310	871	417	1740	1180	1000	1210
15	1780	1730	1760	1750	1900	2350	814	358	1730	896	1020	1290
16	1900	1740	1710	1720	1920	2330	820	500	1690	522	1060	1310
17	1870	1740	1730	1750	1900	2340	850	409	1810	631	1080	1340
18	1870	1750	1750	1740	2020	2380	929	704	1800	691	1120	1370
19	1900	1770	1770	1730	2040	2350	960	762	1840	1030	1140	1390
20	1920	1780	1750	1720	2020	2260	953	807	1860	757	1170	1000
21	1940	1790	1820	1730	2030	2250	491	944	1910	581	1180	805
22	1950	1800	1770	1760	2040	2240	690	1060	1890	431	1210	1360
23	1990	1810	1800	1760	2070	2240	761	1270	1960	407	1240	1100
24	2020	1800	1820	1820	2080	2250	395	1290	2030	435	1260	946
25	1980	1740	1830	1800	2090	2260	374	1380	2060	462	1240	1300
26	1950	1800	1800	1840	2090	2280	400	1250	2050	493	1290	1340
27	1860	1810	1830	1960	2130	2260	609	500	2040	533	1230	1120
28	1480	1840	1810	1930	2110	2270	697	658	2050	549	1300	1140
29	1640	1840	1890	1940	2120	2280	805	400	1990	566	1370	1370
30	1710	1850	1880	1910	---	2290	346	1160	1840	586	1370	783
31	1340	---	1890	1940	---	2280	---	1230	---	619	1420	---
MONTH	1810	1730	1840	1790	1990	2240	1080	733	1700	753	1020	1220

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23.0	23.0	14.5	13.0	13.5	23.0	19.5	19.5	26.5	28.0	28.0	28.0
2	24.0	---	---	13.0	13.0	22.0	18.5	21.5	25.5	28.0	28.5	28.0
3	20.0	20.5	14.0	---	14.0	22.0	19.5	20.5	26.0	28.0	28.0	27.0
4	---	21.5	15.5	9.5	16.0	22.0	---	20.5	25.0	---	28.0	29.5
5	---	23.0	18.0	10.0	17.0	22.0	20.5	21.5	25.5	25.5	28.0	---
6	21.0	22.0	19.0	10.5	13.0	18.0	19.0	23.5	28.5	25.5	29.0	29.0
7	19.0	20.0	18.0	10.5	13.5	16.0	20.0	21.0	25.5	26.5	29.5	28.0
8	24.5	22.0	15.0	8.0	14.0	22.0	22.0	20.0	26.0	26.5	---	---
9	23.0	25.0	15.5	11.0	16.0	18.0	20.0	---	24.5	25.0	28.5	29.0
10	---	21.5	16.5	9.5	18.0	16.5	---	21.0	29.0	---	29.0	27.0
11	24.5	22.0	16.0	---	18.5	---	---	---	26.0	25.0	30.5	26.0
12	---	19.0	16.0	12.0	19.0	19.0	21.0	25.5	26.5	27.0	30.0	27.0
13	25.0	18.0	16.5	15.5	19.5	17.0	21.5	23.5	28.0	28.0	28.5	27.0
14	24.5	---	19.0	13.5	20.0	14.5	22.0	22.0	26.5	26.0	30.0	28.0
15	25.0	18.0	---	14.0	20.0	18.0	23.0	21.5	27.0	26.0	29.0	27.0
16	26.0	16.5	15.0	15.5	21.5	---	20.5	25.0	28.5	26.5	28.0	---
17	22.0	18.5	15.0	14.0	23.0	16.0	---	23.5	28.0	26.5	28.0	28.0
18	23.0	20.0	13.0	14.0	20.0	18.5	22.0	23.5	28.5	28.0	29.0	26.5
19	22.0	20.5	10.5	15.5	20.5	18.5	23.0	23.0	28.0	28.5	26.5	---
20	23.0	19.0	13.0	13.0	21.5	20.5	23.0	23.0	28.5	26.5	27.0	26.0
21	24.0	16.5	13.0	14.0	19.5	20.5	19.5	23.5	28.0	---	25.5	26.0
22	21.0	15.0	10.5	14.5	17.0	18.0	23.0	23.0	28.0	28.5	26.0	26.0
23	24.5	12.0	10.5	15.0	18.0	18.0	23.0	25.5	28.0	28.5	26.0	26.0
24	23.5	13.5	13.0	14.0	---	19.0	23.0	25.5	28.0	28.0	26.0	27.0
25	---	13.0	11.0	15.5	19.0	21.0	25.0	28.0	28.0	---	28.5	26.0
26	21.0	11.0	13.0	13.0	19.5	22.0	---	27.0	28.0	28.5	26.5	28.0
27	20.0	11.0	13.0	11.5	19.0	21.5	26.0	---	---	28.5	26.5	26.0
28	20.0	16.0	---	12.0	18.0	21.5	24.0	24.0	29.0	28.5	---	25.0
29	22.0	19.0	10.5	13.0	18.0	22.0	23.0	---	28.0	28.0	26.5	25.0
30	23.0	16.5	10.0	13.5	---	21.0	19.5	29.0	28.0	28.0	28.0	24.0
31	21.5	---	13.0	11.5	---	18.0	---	27.0	---	28.0	28.5	---
MONTH	22.5	18.5	14.0	12.5	18.0	19.5	21.5	23.5	27.5	27.0	28.0	27.0

NUECES RIVER BASIN

08208000 Atascosa River at Whitsett, Tex.

LOCATION.--Lat 28°37'18", long 98°17'02", Live Oak County, on right bank 1,000 ft (305 m) upstream from bridge on Farm Road 99, 1.1 miles (1.8 km) southwest of Whitsett, 3.9 miles (6.3 km) downstream from La Parita Creek, and at mile 13.1 (21.1 km).

DRAINAGE AREA.--1,171 mi² (3,033 km²).

PERIOD OF RECORD.--September 1924 to May 1926, May 1932 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 159.04 ft (48.475 m) above mean sea level. Prior to May 8, 1926, non-recording gage at bridge 1,200 ft (366 m) downstream at datum 1.38 ft (0.421 m) higher.

AVERAGE DISCHARGE.--45 years (1924-25, 1932-76), 134 ft³/s (3.795 m³/s), 97,080 acre-ft/yr (120 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 1,750 ft³/s (49.6 m³/s) May 9 (gage height, 18.38 ft or 5.602 m); minimum, 0.91 ft³/s (0.026 m³/s) Aug. 16.

Period of record: Maximum discharge, 121,000 ft³/s (3,430 m³/s) Sept. 23, 1967 (gage height, 41.3 ft or 12.59 m, from floodmark), from rating curve extended above 24,000 ft³/s (680 m³/s) on basis of slope-area measurement of peak flow; no flow at times.

Maximum stage since at least 1881, that of Sept. 23, 1967. Second highest stage, 41 ft or 12.5 m (discharge, 106,000 ft³/s or 3,000 m³/s), occurred in September 1919.

REMARKS.--Records good. Considerable loss of flow into various permeable formations occurs upstream from station. Records of the Lower Nueces River Water Supply District indicate that during the current year the Campbellton water wells discharged 61.4 acre-ft (75,700 m³) into the Atascosa River 12 miles (19 km) upstream from this station. Small diversions above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.7	22	5.7	7.7	7.0	4.2	5.9	620	42	4.5	4.9	1.6
2	4.4	15	5.8	7.7	7.0	4.0	5.9	184	33	4.3	4.2	1.3
3	4.2	15	5.9	7.9	7.0	4.0	5.8	63	27	4.1	3.7	197
4	4.1	10	5.9	7.8	7.2	3.9	7.9	39	23	3.4	3.5	23
5	4.2	8.8	6.1	7.2	7.7	4.3	8.6	30	21	41	3.1	9.4
6	4.5	8.3	6.2	7.4	7.7	4.6	9.4	122	19	455	2.9	7.0
7	4.5	7.7	6.2	7.8	8.4	4.8	12	770	17	284	2.6	5.3
8	4.4	7.3	6.2	8.1	8.9	5.1	13	1250	16	206	2.5	4.2
9	4.4	7.3	6.2	7.3	8.3	5.1	12	1570	16	172	2.1	3.4
10	4.4	7.0	6.2	6.9	8.3	5.8	11	946	15	271	1.9	3.0
11	4.4	6.7	6.0	7.3	8.3	5.9	8.8	480	14	316	1.4	3.1
12	4.2	6.0	5.8	7.0	8.5	5.9	7.8	107	13	321	1.3	2.6
13	3.9	5.3	6.1	7.1	8.3	6.2	6.9	169	13	96	1.4	2.7
14	3.5	5.3	5.9	8.1	7.7	5.7	6.4	596	12	53	1.2	2.9
15	3.3	5.2	5.9	8.5	7.3	17	6.0	653	11	63	1.1	39
16	3.4	5.2	6.0	8.0	6.9	12	5.4	217	11	70	1.0	22
17	3.2	5.3	6.2	7.7	6.7	11	5.5	98	10	45	1.1	15
18	3.1	5.6	6.0	7.4	6.7	10	6.2	62	9.9	30	2.0	11
19	2.8	5.6	5.9	7.1	6.6	9.2	207	46	10	31	2.7	8.4
20	2.9	5.5	5.6	7.3	6.7	7.9	631	37	9.9	21	9.0	226
21	3.1	5.4	5.4	7.3	6.6	7.0	608	32	8.5	16	4.5	253
22	3.7	5.6	5.8	7.4	5.8	6.7	359	44	7.1	25	4.5	84
23	3.7	5.2	6.2	7.9	5.2	6.5	241	181	3.5	39	3.3	34
24	3.4	5.3	7.7	9.4	5.2	6.4	88	145	6.2	25	2.7	20
25	4.4	5.4	8.3	9.3	4.9	6.5	55	56	6.3	15	2.3	14
26	8.8	5.4	7.8	8.6	4.5	6.7	279	48	4.8	14	2.2	20
27	8.9	5.5	7.8	8.1	4.9	6.4	204	157	4.5	11	2.0	43
28	90	5.6	8.5	7.7	5.1	6.5	61	627	6.3	9.6	1.7	303
29	47	5.6	8.2	7.6	4.6	6.5	227	372	4.7	7.3	1.4	434
30	65	5.9	8.6	7.3	---	6.4	548	105	5.0	6.4	1.4	757
31	31	---	8.1	7.2	---	6.1	---	61	---	5.4	1.7	---
TOTAL	347.4	219.0	201.6	239.1	198.0	208.3	3651.5	9987	399.7	2665.0	81.3	2549.9
MEAN	11.2	7.30	6.50	7.71	6.83	6.72	122	319	13.3	86.0	2.62	85.0
MAX	90	22	8.5	9.4	8.9	17	630	1570	42	455	9.0	757
MIN	2.8	5.2	5.4	6.9	4.5	3.9	5.4	30	3.5	3.4	1.0	1.3
AC-FT	689	434	400	474	393	413	7240	19610	794	5290	161	5060

CAL YR 1975 TOTAL 32354.5 MEAN 88.6 MAX 9500 MIN 2.8 AC-FT 64180
WTR YR 1976 TOTAL 20647.8 MEAN 56.4 MAX 1570 MIN 1.0 AC-FT 40950

PEAK DISCHARGE (BASE, 1,500 FT³/S).--May 9 (1000) 1,750 ft³/s (18.38 ft).

NUECES RIVER BASIN

413

08210000 Nueces River near Three Rivers, Tex.
(National stream-gaging accounting network)

LOCATION.--Lat 28°26'10", Long 98°11'06", Live Oak County, on left bank 100 ft (30 m) downstream from Missouri Pacific Railroad bridge, 0.2 mile (0.3 km) downstream from Frio River, 1.7 miles (2.7 km) south of Three Rivers, and at mile 102.6 (165.1 km).

DRAINAGE AREA.--15,600 mi² (40,400 km²).

PERIOD OF RECORD.--Discharge: July 1915 to current year. Monthly discharge only for November 1919 to January 1920, published in WSP 1312.

Water quality: Chemical analyses: October 1941 to September 1947, September 1950 to September 1952. Chemical, biochemical, and pesticide analyses: January 1968 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 101.13 ft (30.824 m) above mean sea level. Prior to Apr. 5, 1932, nonrecording gage at railroad bridge 100 ft (30 m) upstream at same datum.

AVERAGE DISCHARGE.--61 years, 857 ft³/s (24.27 m³/s), 620,900 acre-ft/yr (766 hm³/yr).

EXTREMES.--Discharge: Current year: Maximum discharge, 8,320 ft³/s (236 m³/s) Sept. 21 (gage height, 30.03 ft or 9.153 m); minimum, 34 ft³/s (0.96 m³/s) Mar. 31, Apr. 1.

Period of record: Maximum discharge, 141,000 ft³/s (3,990 m³/s) Sept. 23, 1967 (gage height, 49.21 ft or 14.999 m); no flow at times.

Historic: Maximum stage since about 1875, that of Sept. 23, 1967.

Water quality: Current year: Maximum daily specific conductance, 2,390 micromhos Mar. 18; minimum daily, 199 micromhos Sept. 21. Maximum water temperatures, 30.5°C June 30, July 1, 3, 4.

Period of record: Maximum daily specific conductance (1974-76), 2,820 micromhos Apr. 15, 1975; minimum daily, 157 micromhos May 26, 1975. Maximum water temperatures (1975-76), 30.5°C June 30, July 1, 3, 4, 1976.

REMARKS.--Discharge records good. Part of flow of Nueces and Frio Rivers and their headwater tributaries enter the Edwards and associated limestones in the Balcones Fault Zone upstream from U.S. Highway 90 (see REMARKS for stations 08194600 and 08205500). Considerable loss of flow into various permeable formations occurs downstream from the Balcones Fault Zone. Many small diversions for irrigation and municipal supply above station. Minor upstream regulation by small reservoirs and by ground-water supplements (see station 08208000 Atascosa River at Whitsett).

REVISIONS (WATER YEARS).--WSP 548: 1920-21. WSP 1562: 1916, 1918-21, 1922(M), 1923, 1929.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	124	916	78	82	58	38	35	1440	586	61	3320	418
2	117	928	79	86	58	38	39	1350	502	67	3560	402
3	110	909	80	81	58	38	42	593	421	72	3630	438
4	105	945	85	78	56	38	88	528	402	66	3480	539
5	101	810	90	77	56	40	58	443	370	380	3110	394
6	99	292	91	76	55	41	46	373	320	2570	2650	372
7	96	183	91	75	54	42	48	1620	271	3350	2160	446
8	93	155	88	74	54	45	193	3980	231	2590	1510	528
9	90	145	86	74	56	44	102	4130	204	1890	1050	425
10	88	136	84	74	56	42	239	3510	189	2890	904	447
11	85	132	83	73	56	42	348	2690	169	3430	820	489
12	81	130	85	73	55	43	359	1300	153	3950	772	487
13	79	121	85	74	55	45	209	1080	141	3120	729	449
14	76	111	84	74	53	45	139	1780	132	2320	688	413
15	74	108	90	74	52	45	113	3290	124	2370	654	412
16	72	108	87	74	51	53	375	3720	115	2840	634	450
17	68	106	86	73	52	52	246	2040	107	3080	615	393
18	67	103	85	72	50	48	427	906	100	3020	597	367
19	64	101	83	72	51	49	325	733	94	2750	603	358
20	78	96	82	71	50	49	577	563	91	2130	608	3690
21	73	99	81	68	49	46	1270	414	90	1610	666	7920
22	66	91	80	67	45	45	1450	375	108	1930	628	5320
23	66	96	80	66	43	45	1260	364	118	2480	574	3480
24	67	93	96	65	42	47	978	444	102	3390	556	4970
25	69	90	99	62	42	46	1020	374	89	4010	515	5010
26	79	87	85	62	42	44	1280	434	83	3910	490	3950
27	89	83	77	61	39	41	1180	1460	75	3390	479	3530
28	185	81	75	61	39	38	428	1310	72	2990	465	1830
29	510	80	75	62	39	38	710	1460	72	2830	470	1310
30	713	79	76	61	---	37	1560	1080	65	2860	482	1630
31	829	---	77	60	---	34	---	716	---	3030	452	---
TOTAL	4513	7422	2603	2202	1467	1338	15144	44900	5596	75356	37871	50867
MEAN	146	247	84.0	71.0	50.6	43.2	505	1448	187	2431	1222	1696
MAX	829	945	99	86	58	53	1560	4130	586	4010	3630	7920
MIN	64	79	75	60	39	34	35	364	65	61	452	358
AC-FT	8950	14720	5160	4370	2910	2650	30040	89060	11100	149500	75120	100900
CAL YR 1975 TOTAL	234400	249279	MEAN 642	MAX 17400	MIN 64	AC-FT 464900						
WTR YR 1976 TOTAL			MEAN 681	MAX 7920	MIN 34	AC-FT 494400						

PEAK DISCHARGE (BASE, 6,000 FT³/S).--Sept. 21 (1200) 8,320 ft³/s (30.03 ft).

NUECES RIVER BASIN

08210000 Nueces River near Three Rivers, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)
OCT										
22...	1300	65	1760	7.8	22.5	6	8	8.7	99	1.5
NOV										
19...	1330	102	1720	7.9	23.0	10	12	9.2	106	1.2
DEC										
10...	1025	84	1960	7.8	14.0	18	10	9.4	90	1.0
JAN										
21...	0950	68	1870	8.0	12.0	15	10	10.0	90	.8
FEB										
25...	0950	42	2110	7.9	15.0	23	20	9.4	92	1.2
MAR										
24...	0920	44	2330	7.9	19.5	45	25	7.5	80	1.4
APR										
28...	1145	390	679	7.5	24.0	80	210	7.2	85	2.4
MAY										
26...	1050	324	1210	7.8	26.0	35	130	7.3	89	3.9
JUN										
23...	0950	122	1830	8.0	28.5	25	15	7.0	91	2.0
JUL										
21...	0935	1560	770	7.7	27.0	75	180	6.7	85	1.3
AUG										
18...	0945	594	663	7.9	28.0	20	85	6.8	87	3.2
SEP										
22...	1015	5450	273	7.4	25.0	110	150	4.9	60	4.0
DATE	IMME- DIATE COLI- FORM (COL. PER 100 ML)	FECAL COLI- FORM (COL. PER 100 ML)	STREP- TOCOCCI (COL- ONIES PER 100 ML)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)
OCT										
22...	80	20	84	530	360	160	31	180	3.4	4.5
NOV										
19...	200	44	73	470	290	150	24	180	3.6	5.0
DEC										
10...	150	68	190	580	370	180	31	210	3.8	4.7
JAN										
21...	260	100	140	500	310	150	31	200	3.9	4.3
FEB										
25...	220	280	110	570	370	170	36	240	4.4	5.6
MAR										
24...	700	200	220	560	330	160	40	310	5.7	7.5
APR										
28...	6600	510	3800	190	68	61	9.3	58	1.8	8.1
MAY										
26...	2200	340	730	390	210	120	21	110	2.4	6.8
JUN										
23...	2100	110	320	540	360	160	34	200	3.7	6.5
JUL										
21...	21000	820	2200	230	88	76	9.2	64	1.8	7.0
AUG										
18...	12000	1100	2000	250	85	77	15	39	1.1	3.3
SEP										
22...	15000	2600	280	88	8	31	2.6	19	.9	6.5

NUECES RIVER BASIN

415

08210000 Nueces River near Three Rivers, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	HICAR- BONATE (HCO3) (MG/L)	CAH- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLOR- IDE (CL) (MG/L)	DIS- SOLVED FLUOR- IDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NON- FILT- RABLE RESIDUE (MG/L)	VOL. NON- FILT- RABLE RESIDUE (MG/L)
OCT 22...	204	0	250	310	--	10	1120	1050	20	2
NOV 14...	224	0	200	320	.5	13	1050	1000	19	2
DEC 10...	250	0	250	400	.3	14	1250	1210	24	2
JAN 21...	238	0	250	340	.2	11	1230	1100	33	0
FEB 25...	248	0	270	400	.4	12	1320	1260	40	18
MAR 24...	290	0	310	470	.5	13	1470	1450	48	10
APR 28...	150	0	69	86	.3	14	418	380	352	48
MAY 26...	218	0	160	190	.2	16	838	731	230	28
JUN 23...	226	0	270	350	.4	16	1290	1150	30	3
JUL 21...	170	0	47	140	.3	20	498	447	424	80
AUG 18...	207	0	57	77	.2	14	432	385	192	27
SEP 22...	98	0	21	22	.2	15	136	166	388	62

DATE	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	SUS- PENDE SEDIM- ENT (MG/L)	SUS- PENDE SEDIM- ENT (T/DAY)	SUS- SED. SIEVF. DIAM. * FINER THAN .062 MM
OCT 22...	2.2	.01	.08	.32	.07	4.8	19	3.3	44
NOV 14...	2.4	.01	.04	.51	.09	2.4	32	4.8	43
DEC 10...	2.8	.01	.05	.30	.07	4.0	25	5.7	44
JAN 21...	4.3	.01	.04	.79	.07	3.0	40	7.3	43
FEB 25...	2.5	.01	.08	.36	.12	4.4	41	4.6	90
MAR 24...	1.8	.03	.17	.72	.17	6.7	37	4.4	98
APR 28...	.84	.04	.09	.86	.74	6.6	333	351	99
MAY 26...	2.4	.02	.06	.75	.19	7.4	226	198	96
JUN 23...	3.5	.01	.10	.54	.04	8.2	48	16	60
JUL 21...	.69	.01	.04	1.1	.20	11	177	1590	99
AUG 18...	1.8	.01	.01	.57	.10	3.6	163	261	100
SEP 22...	.35	.02	.04	1.5	.25	9.2	259	3410	99

NUECES RIVER BASIN

08210000 Nueces River near Three Rivers, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	DIS- SOLVED ALUM- INUM (AL) (UG/L)	TOTAL ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)
FEB. 25...	0950	80	3	2	620	0	0	10	0	0
APR. 28...	1145	40	11	3	170	0	0	10	0	4
JUNE 23...	0950	20	4	2	440	0	0	20	0	0
AUG. 18...	0945	20	2	2	170	0	0	20	10	0

DATE	DIS- SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)
FEB. 25...	0	3	0	980	30	3	0	70	70
APR. 28...	0	12	3	10000	10	10	0	20	180
JUNE 23...	0	5	1	570	0	0	0	40	38
AUG. 18...	0	8	0	2900	0	7	0	10	80

DATE	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	DIS- SOLVED SELE- NIUM (SE) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)
FEB. 25...	30	.2	.1	0	1	0	1100	20	0
APR. 28...	0	.1	.1	0	0	0	400	40	10
JUNE 23...	10	.5	.5	0	1	1	1300	30	20
AUG. 18...	5	.3	.3	0	1	1	500	30	20

08210000 Nueces River near Three Rivers, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL PCB (UG/L)	PCB IN BOTTOM MA- TERIAL (UG/KG)	POLY- CHLO- RINATED NAPH- THA- LENES (UG/L)	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL CHLOR- DANE (UG/L)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDD (UG/L)	DDD IN BOTTOM MA- TERIAL (UG/KG)
NOV 19...	1330	--	--	--	ND	--	ND	--	ND	--
JAN 21...	0950	.0	0	--	.00	.0	.0	2	.00	.6
FEB 25...	0950	--	--	--	ND	--	ND	--	ND	--
MAR 24...	0920	.0	0	.00	.00	.0	.0	4	.00	.0
MAY 26...	1050	--	--	--	ND	--	ND	--	ND	--
JUN 23...	0950	.0	0	.00	.00	.0	.0	0	.00	.0
JUL 21...	0935	.0	--	.00	.00	--	.0	--	.00	--
AUG 18...	0945	--	--	--	ND	--	ND	--	ND	--

DATE	TOTAL DDE (UG/L)	DDE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDT (UG/L)	DDT IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	DI- ELDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ETHION (UG/L)
NOV 19...	ND	--	ND	--	ND	ND	--	ND	--	ND
JAN 21...	.00	.6	.00	4.9	.00	.00	.0	.00	.0	.00
FEB 25...	ND	--	ND	--	ND	ND	--	ND	--	ND
MAR 24...	.00	.0	.00	.0	.00	.00	.0	.00	.0	.00
MAY 26...	ND	--	ND	--	ND	ND	--	ND	--	ND
JUN 23...	.00	.0	.00	.6	.00	.00	.0	.00	.0	.00
JUL 21...	.00	--	.00	--	.00	.00	--	.00	--	.00
AUG 18...	ND	--	ND	--	ND	ND	--	ND	--	ND

DATE	TOTAL HEPTA- CHLOR (UG/L)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL LINDANE (UG/L)	LINDANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL MALA- THION (UG/L)	TOTAL METH- OXY- CHLOR (UG/L)	TOTAL METHYL PARA- THION (UG/L)
NOV 19...	ND	--	ND	--	ND	--	ND	ND	ND
JAN 21...	.00	.0	.00	.0	.00	.0	.00	--	.00
FEB 25...	ND	--	ND	--	ND	--	ND	ND	ND
MAR 24...	.00	.0	.00	.0	.00	.0	.00	--	.00
MAY 26...	ND	--	ND	--	ND	--	ND	ND	ND
JUN 23...	.00	.0	.00	.0	.00	.0	.00	--	.00
JUL 21...	.00	--	.00	--	.00	--	.00	--	.00
AUG 18...	ND	--	ND	--	ND	--	ND	ND	ND

DATE	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL TOX- APHENE (UG/L)	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL TRI- THION (UG/L)	TOTAL ATRA- ZINE (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
NOV 19...	ND	ND	ND	--	ND	ND	ND	ND	ND
JAN 21...	.00	.00	0	0	.00	--	.00	.00	.00
FEB 25...	ND	ND	ND	--	ND	ND	ND	ND	ND
MAR 24...	.00	.00	0	0	.00	--	.00	.00	.00
MAY 26...	ND	ND	ND	--	ND	ND	ND	ND	ND
JUN 23...	.00	.00	0	0	.00	--	.00	.00	.00
JUL 21...	.00	.00	0	--	.00	--	.00	.00	.00
AUG 18...	ND	ND	ND	--	ND	ND	ND	ND	ND

08210000 Nueces River near Three Rivers, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PERIPHYTON

Date	Length of exposure (days)	Biomass (g/m ²)		Chlorophyll a (mg/m ²)	Chlorophyll b (mg/m ²)	Biomass pigment ratio	Sampling method
		Dry weight	Ash weight				
MAY 26	28	0.154	0.077	0.000	0.000	0.0	Polyethylene strip
OCT. 22, 1975	1300 HOURS						
PHYTOPLANKTON 970 CELLS/ML				DEC. 10, 1975 1025 HOURS			
				PHYTOPLANKTON 390 CELLS/ML			
_ORGANISM_NAME		CELLS/ML	PER_CENT	_ORGANISM_NAME		CELLS/ML	PER_CENT
CHLOROPHYTA				CHRYSOPHYTA			
..CHLOROPHYCEAE				..BACILLARIOPHYCEAE			
...CHLOROCOCCALES				..PENNALES			
...SCENEDESMACEAE				...NAVICULACEAE			
...VOLVOCALES		75	8	...AMPHIPRORA		22	6
...CHLAMYDOMONADACEAE				...NITZSCHIACEAE			
...CHLAMYDOMONAS		37	4	...NITZSCHIA		370	94
...ZYGNEMATALES				...SURIPELLACEAE			
...DESMIDIACEAE				....SURIPELLA			0
...CLOSTERIUM		75	8				
CHRYSOPHYTA				JAN. 21, 1976 0950 HOURS			
..BACILLARIOPHYCEAE				PHYTOPLANKTON 630 CELLS/ML			
..CENTRALES							
...COSCINODISCEAE				_ORGANISM_NAME		CELLS/ML	PER_CENT
...CYCLOTELLA		190	19				
..PENNALES				CHRYSOPHYTA			
...ACHNANTHACEAE				..BACILLARIOPHYCEAE			
...COCCONEIS		75	8	..PENNALES			
...NAVICULACEAE				...CYMBELLACEAE			
...NAVICULA		220	23	...CYMBELLA			0
...NITZSCHIACEAE				...GOMPHONEMACEAE			
...NITZSCHIA		300	31	...GOMPHONEMA		37	6
...SURIPELLACEAE				...NAVICULACEAE			
....SURIPELLA			0	...AMPHIPRORA		37	6
				...NAVICULA		110	18
NOV. 19, 1975 1330 HOURS				...NITZSCHIACEAE			
PHYTOPLANKTON 340 CELLS/ML				...NITZSCHIA		440	71
				EUGLENOPHYTA			
				..EUGLENOPHYCEAE			
_ORGANISM_NAME		CELLS/ML	PER_CENT	..EUGENALES			
				...EUGENACEAE			
CHLOROPHYTA				....EUGLENA			0
..CHLOROPHYCEAE							
...CHLOROCOCCALES							
...OCCYSTACEAE							
...ANKISTRODESMUS			0				
CHRYSOPHYTA							
..BACILLARIOPHYCEAE							
..CENTRALES							
...COSCINODISCEAE							
...CYCLOTELLA			0				
...MELOSIRA		92	27				
..PENNALES							
...ACHNANTHACEAE							
...ACHNANTHES		23	7				
...NAVICULACEAE							
...NAVICULA		46	13				
...NITZSCHIACEAE							
....NITZSCHIA		180	53				

08210000 Nueces River near Three Rivers, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

FEB. 25, 1976 0950 HOURS

PHYTOPLANKTON 450 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..OCCYSTACEAE		
....ANKISTRODESMUS	26	6
....DICTYOSPHAERIUM	77	17
....OOCYSTIS		0
..VOLVOCEAE		
..CHLAMYDOMONADACEAE		
....CHLAMYDOMONAS	77	17
..ZYGNEMATALES		
....DESMIDIACEAE		
....CLOSTERIUM		0
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
....COSCINODISCACEAE		
....CYCLOTELLA		0
..PENNALES		
....ACHNANTHACEAE		
....COCCONEIS	26	6
....CYMBELLACEAE		
....AMPHORA	13	3
....FRAGILARIACEAE		
....SYNEDRA		0
....NAVICULACEAE		
....AMPHIPRORA	13	3
....GYROSIGMA	13	3
....NAVICULA	51	11
....PINNULARIA	26	6
....NITZSCHACEAE		
....NITZSCHIA	130	29
....SURIPELLACEAE		
....SURIELLA		0

MAR. 24, 1976 0920 HOURS

PHYTOPLANKTON 990 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
....COSCINODISCACEAE		
....CYCLOTELLA	86	9
....MELOSIRA	86	9
..PENNALES		
....NAVICULACEAE		
....CALONEIS		0
....DIPLONEIS	43	4
....GYROSIGMA		0
....NAVICULA	86	9
....NITZSCHACEAE		
....NITZSCHIA	600	61
....SURIPELLACEAE		
....SURIELLA	43	4
CYANOPHYTA		
..MYXOPHYCEAE		
....OSCILLATORIALES		
....OSCILLATORIACEAE		
....OSCILLATORIA		0
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
..EUGLENALES		
....EUGLENACEAE		
....PHACUS		0
....TRACHELOMONAS	43	4

APR. 28, 1976 1145 HOURS

PHYTOPLANKTON 580 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
....COSCINODISCACEAE		
....CYCLOTELLA		0
....MELOSIRA	120	20
..PENNALES		
....NAVICULACEAE		
....NAVICULA	59	10
....NITZSCHACEAE		
....NITZSCHIA	230	40
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
..EUGLENALES		
....EUGLENACEAE		
....TRACHELOMONAS	170	30

MAY 26, 1976 1050 HOURS

PHYTOPLANKTON 180 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..CHARACIACEAE		
....SCHROEDERIA	14	8
..OCCYSTACEAE		
....ANKISTRODESMUS	41	23
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..PENNALES		
....GOMPHONEMACEAE		
....GOMPHONEMA	14	8
....NAVICULACEAE		
....NAVICULA	27	15
....NITZSCHACEAE		
....NITZSCHIA	68	38
....SURIPELLACEAE		
....SURIELLA	14	8

JUNE 23, 1976 0950 HOURS

PHYTOPLANKTON 380 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..SCENEDESMACEAE		
....SCENEDESMUS	14	4
..VOLVOCEAE		
..CHLAMYDOMONADACEAE		
....CHLAMYDOMONAS	3	1
..ZYGNEMATALES		
....DESMIDIACEAE		
....SPONDYLIUM	3	1
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
....COSCINODISCACEAE		
....CYCLOTELLA	37	10
....MELOSIRA	10	3
..PENNALES		
....FRAGILARIACEAE		
....FRAGILARIA	27	7
....NAVICULACEAE		
....AMPHIPRORA	3	1
....DIPLONEIS	3	1
....GYROSIGMA	3	1
....NAVICULA	75	20
....NITZSCHACEAE		
....NITZSCHIA	130	34
CYANOPHYTA		
..MYXOPHYCEAE		
....OSCILLATORIALES		
....OSCILLATORIACEAE		
....OSCILLATORIA	64	17
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
..EUGLENALES		
....EUGLENACEAE		
....EUGLENA	7	2

NUECES RIVER BASIN

08210000 Nueces River near Three Rivers, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

JULY 21, 1976 0935 HOURS

PHYTOPLANKTON 2,500 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...OCCYSTACEAE		
...ANKISTRODESMUS	35	1
...SCENEDESMACEAE		
...SCENEDESMUS		0
...VOLVOCALES		
...CHLAMYDOMONADACEAE		
...CHLAMYDOMONAS	35	1
...ZYGNEATALES		
...DESMIDIACEAE		
...COSMARUM	35	1
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINODISCACEAE		
...MELOSIRA		0
..PENNALES		
...CYMBELLACEAE		
...CYMBELLA	35	1
...EPITHEMIA	35	1
...NAVICULACEAE		
...NAVICULA	71	3
...NITZSCHIA		
...NITZSCHIA	570	23
CYANOPHYTA		
..MYXOPHYCEAE		
...OSCILLATORIALES		
...OSCILLATORIA		
...OSCILLATORIA	1,700	68

AUG. 18, 1976 0945 HOURS

PHYTOPLANKTON 780 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..PENNALES		
...NITZSCHIA		
...NITZSCHIA	390	50
CYANOPHYTA		
..MYXOPHYCEAE		
...OSCILLATORIALES		
...OSCILLATORIA		
...OSCILLATORIA	350	45
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
...EUGLENALES		
...EUGLENALES		
...EUGLENALES	35	5
...TRACHELOMONAS		

SEP. 22, 1976 1015 HOURS

PHYTOPLANKTON 97 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINODISCACEAE		
...CYCLOTELLA	97	100

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

MONTH	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA+MG) (MG/L)
OCT. 1975.....	4513	1450	850	10400	260	3150	170	2050	400
NOV. 1975.....	7422	997	590	11700	160	3190	100	2040	290
DEC. 1975.....	2603	1960	1160	8180	370	2610	240	1670	530
JAN. 1976.....	2202	1910	1140	6750	360	2140	230	1380	520
FEB. 1976.....	1428	2050	1220	4710	390	1510	250	968	550
MAR. 1976.....	1338	2290	1380	4970	440	1600	290	1030	620
APR. 1976.....	15144	670	400	16200	89	3650	62	2520	200
MAY 1976.....	44900	560	330	40100	67	8120	48	5830	170
JUNE 1976.....	5596	1460	860	13000	260	3950	170	2560	400
JULY 1976.....	75356	524	310	62800	58	11800	43	8830	170
AUG. 1976.....	37871	584	340	35100	69	7060	48	4950	180
SEPT 1976.....	50867	392	230	31900	42	5730	34	4730	130
TOTAL	249240	**	**	246000	**	54500	**	38600	**
WTD.AVG.	682.85	619	360	**	81	**	57	**	190

NUECES RIVER BASIN

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08210000 Nueces River near Three Rivers, Tex.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C) OF WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2230	660	1920	1960	2010	2180	2200	530	1310	2070	489	863
2	2320	620	1910	1940	2020	2190	2190	565	1300	2090	494	805
3	1710	699	1930	1920	2030	2200	2140	630	1110	1870	480	799
4	1620	645	1920	1900	2040	2220	2000	540	1140	1850	498	749
5	1550	728	1940	1880	2030	2200	2100	720	1220	800	507	750
6	1520	800	1960	1860	2080	2210	2140	740	1270	314	525	783
7	1500	1040	1980	1880	2040	2190	2160	600	1280	558	614	887
8	1470	1100	2000	1940	2060	2220	1800	420	1330	389	619	1050
9	1500	1220	2040	1930	2070	2230	1780	400	1380	410	630	962
10	1470	1370	1960	1920	2080	2240	1600	390	1470	434	632	805
11	1500	1440	2030	1920	2070	2260	1240	410	1560	420	639	810
12	1560	1500	2040	1900	2080	2280	1100	599	1590	430	647	554
13	1580	1550	2050	1910	2050	2290	800	661	1560	451	651	552
14	1600	1600	2040	1890	2040	2300	920	509	1690	507	654	593
15	1610	1650	1970	1880	2030	2310	900	485	1760	563	674	634
16	1650	1690	1980	1880	2020	2320	750	387	1760	567	680	692
17	1710	1720	1990	1890	2000	2360	760	625	1730	496	666	695
18	1760	1760	2000	1900	1990	2390	690	750	1780	558	663	700
19	1800	1720	1980	1910	1990	2380	670	715	1810	584	682	723
20	1810	1830	1950	1920	2000	2370	680	807	1820	717	680	203
21	1790	1840	1890	1870	2020	2360	520	888	1860	770	671	199
22	1760	1850	1890	1890	2040	2370	435	974	1890	709	861	273
23	1840	1850	1910	1860	2060	2360	360	1150	1830	577	784	277
24	1740	1860	1900	1870	2080	2330	720	1340	1940	509	804	260
25	1760	1880	1900	1900	2110	2340	525	1150	1960	539	770	360
26	1750	1890	1920	1920	2100	2330	490	1210	1970	530	765	363
27	1800	1900	1910	1940	2100	2320	470	625	2000	540	739	498
28	1930	1910	1920	1960	2120	2300	629	640	2020	552	735	502
29	1750	1920	1900	1960	2140	2290	820	673	2030	531	714	524
30	1120	1910	1960	1970	---	2260	560	687	2060	515	719	638
31	773	---	1970	2000	---	2190	---	1100	---	496	730	---
MONTH	1650	1470	1960	1910	2050	2280	1140	711	1650	721	659	617

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.5	---	---	---	---	23.0	---	---	26.5	30.5	30.0	28.5
2	24.0	---	---	---	14.0	24.0	---	---	26.5	30.0	29.0	28.0
3	23.5	23.0	---	---	14.5	---	---	---	26.5	30.5	29.5	28.0
4	---	23.0	---	---	---	25.5	---	---	27.0	30.5	29.0	28.0
5	---	23.0	---	---	---	---	---	---	28.0	29.5	29.0	28.0
6	23.0	---	---	---	---	---	---	---	28.0	29.0	29.0	29.0
7	---	23.0	---	---	---	---	---	---	28.0	28.0	29.0	28.5
8	24.0	---	---	11.0	---	20.0	---	---	28.0	26.0	29.5	29.0
9	25.0	---	15.5	---	---	---	---	---	28.0	25.0	29.0	28.0
10	26.5	23.5	15.5	---	18.0	---	---	---	28.0	26.0	28.5	28.0
11	---	---	16.5	---	---	---	---	---	28.5	26.5	28.0	28.0
12	---	20.5	---	14.5	20.0	---	---	23.0	28.5	26.0	28.0	28.0
13	26.5	---	---	16.0	21.0	16.0	---	23.5	28.0	26.0	28.5	27.0
14	24.5	---	---	15.0	---	---	---	23.0	29.0	26.5	28.5	27.0
15	26.5	---	---	14.5	---	---	---	23.0	29.0	26.5	28.5	27.0
16	---	---	16.5	13.5	23.0	17.0	---	24.0	29.0	27.0	28.0	26.5
17	---	---	---	---	23.0	18.0	---	24.0	28.5	27.0	28.0	26.0
18	---	20.5	---	---	21.5	20.0	---	24.0	28.0	28.5	28.0	26.5
19	---	20.5	---	14.5	---	---	---	23.0	28.5	28.0	28.5	28.0
20	23.0	19.0	---	14.0	---	---	---	23.0	30.0	28.0	27.0	26.0
21	23.0	---	12.0	14.0	---	---	---	23.0	28.0	27.0	28.0	24.5
22	---	---	13.0	14.5	---	19.5	---	23.0	30.0	26.5	28.0	24.5
23	24.5	---	13.0	14.5	---	19.0	---	24.5	30.0	26.5	27.0	24.5
24	23.0	14.0	---	---	---	---	---	25.0	30.0	27.0	28.0	25.5
25	---	14.5	---	---	---	---	---	25.5	29.5	27.0	29.0	25.5
26	---	13.0	---	---	---	---	---	26.0	30.0	28.0	28.5	28.0
27	---	12.0	---	---	---	---	---	25.5	29.0	28.0	29.0	27.0
28	22.0	---	---	---	---	---	---	25.5	30.0	28.0	28.0	26.0
29	23.0	---	11.5	13.5	---	---	---	25.0	30.0	28.0	28.5	24.5
30	21.5	---	13.0	14.0	---	---	---	26.0	30.5	28.5	28.0	23.5
31	21.5	---	13.0	---	---	---	---	26.0	---	29.5	27.0	---
MONTH	---	---	---	---	---	---	---	---	28.5	27.5	28.5	27.0

NUECES RIVER BASIN

08210400 Lagarto Creek near George West, Tex.

LOCATION.--Lat 28°03'34", long 98°05'48", Live Oak County, near right bank 75 ft (23 m) downstream from bridge on U.S. Highway 281, 0.6 mile (1.0 km) upstream from Dix Hollow, and 19.3 miles (31.1 km) south of George West.

DRAINAGE AREA.--155 mi² (401 km²).

PERIOD OF RECORD.--April 1972 to current year.

GAGE.--Water-stage recorder. Datum of gage is 197.77 ft (60.280 m) above mean sea level.

EXTREMES.--Current year: Maximum discharge, 283 ft³/s (8.01 m³/s) July 11 (gage height, 8.12 ft or 2.475 m); no flow most of time.
 Period of record: Maximum discharge, 1,900 ft³/s (53.8 m³/s) May 13, 1972 (gage height, 12.20 ft or 3.719 m); no flow most of time.
 Maximum stage since about 1887, 25.1 ft or 7.65 m (discharge, 33,500 ft³/s or 949 m³/s) Oct. 17, 1971. Second highest stage, 24.3 ft or 7.41 m (discharge, 29,500 ft³/s or 835 m³/s) occurred Sept. 12, 1971. The third and fourth highest floods occurred in 1914 and September 1967 (stages unknown).

REMARKS.--Records good. No known regulation or diversion.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							0	0		0		
2							0	0		0		
3							0	0		0		
4							0	0		0		
5							0	0		0		
6							0	0		0		
7							0	0		0		
8							0	0		0		
9							0	0		0		
10							0	0		0		
11							0	0		114		
12							0	0		39		
13							0	.01		9.2		
14							0	0		19		
15							0	0		9.6		
16							0	0		7.5		
17							0	0		.63		
18							0	0		0		
19							0	0		0		
20							0	0		0		
21							0	0		0		
22							0	0		.01		
23							0	0		0		
24							0	0		0		
25							0	0		0		
26							0	2.4		0		
27							0	.02		0		
28							0	0		0		
29							8.7	0		0		
30					---		.01	0		0		
31		---			---		---	0	---	0		---
TOTAL	0	0	0	0	0	0	8.71	2.43	0	198.94	0	0
MEAN	0	0	0	0	0	0	.29	.078	0	6.42	0	0
MAX	0	0	0	0	0	0	8.7	2.4	0	114	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	17	4.8	0	395	0	0

CAL YR 1975 TOTAL 0.00 MEAN .000 MAX .00 MIN 0 AC-FT 0
 WTR YR 1976 TOTAL 210.08 MEAN .57 MAX 114 MIN 0 AC-FT 417

PEAK DISCHARGE (BASE, 50 FT³/S).--Apr. 29 (1100) 57 ft³/s (6.14 ft); July 11 (1400) 283 ft³/s (8.12 ft).

08210500 Lake Corpus Christi near Mathis, Tex.

LOCATION.--Lat 28°02'17", long 97°52'15", San Patricio-Jim Wells County line, on right upstream corner of outlet tower at right end of Wesley E. Seale Dam on Nueces River, 0.6 mile (1.0 km) upstream from bridge on State Highway 359, and 4.5 miles (7.2 km) southwest of Mathis.

DRAINAGE AREA.--16,656 mi² (43,139 km²).

PERIOD OF RECORD.--Contents: September 1948 to current year. Prior to October 1960, monthend records only. The Soil Conservation Service, U.S. Department of Agriculture, in cooperation with the Texas Board of Water Engineers (now Texas Water Development Board), collected fragmentary gage-height records in connection with sedimentation studies from Feb. 2, 1942, to July 10, 1947.
Water quality: Chemical analyses: March 1971 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level. Prior to Oct. 1, 1957, nonrecording gage at various sites 0.2 mile (0.3 km) upstream at datum 0.52 ft (0.158 m) higher. Oct. 1, 1957, to Apr. 3, 1961, nonrecording gage near left end of Mathis Dam 0.2 mile (0.3 km) upstream at present datum.

EXTREMES (at 2400).--Current year: Maximum contents, 276,200 acre-ft (341 hm³) May 7, 8 (elevation, 94.2 ft or 28.71 m); maximum elevation, 94.6 ft (28.83 m) May 7; minimum contents, 233,500 acre-ft (288 hm³) Apr. 3, 16; minimum elevation, 91.3 ft (27.83 m) Apr. 15.
Period of record: Maximum contents, 320,000 acre-ft (395 hm³) Sept. 22, 1967, and Sept. 12, 1971; maximum elevation, 94.82 ft (28.901 m) Sept. 22, 1967; minimum contents, 14,740 acre-ft (18.2 hm³) May 5, 1951 (elevation, 67.62 ft or 20.611 m).

REMARKS.--Mathis Dam was completed and storage began July 24, 1934. The original capacity at spillway crest (elevation, 74.5 ft or 22.71 m) was 54,000 acre-ft (66.6 hm³), but by March 1948 had decreased because of sedimentation to 39,400 acre-ft (48.6 hm³). Wesley E. Seale Dam was completed and deliberate impoundment began on Apr. 26, 1958, submerging the old Mathis Dam. Wesley E. Seale Dam is a rolled earthfill dam 5,930 ft (1,807 m) long, including two spillways. The 1,320-foot (402-meter) north spillway has 33 gates that are operated by movable hydraulic lifts. The 1,080-foot (329-meter) south spillway has 27 gates that are electrically operated from the control tower. The gates were repaired and modified in August 1966. All gates in both spillways are 37.5 by 8.75 ft (11.4 by 2.67 m) wide. Water for municipal supply for the city of Corpus Christi is released downstream through a 4.0-foot-diameter (1.2-meter) cylinder valve and three 2.5- by 4.0-foot (0.8- by 1.2-meter) rectangular openings. The releases are diverted from the river at Calallen 35 miles (56 km) downstream. The city of Alice withdrew 3,500 acre-ft (4.32 hm³) from the lake during the current year for municipal use. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	106.0	-
Top of north spillway gates.....	94.3	278,200
Top of south spillway gates.....	93.8	268,500
Crest of spillways.....	88.0	170,200
Lowest gated outlet (invert).....	55.5	646

COOPERATION.--The capacity curve is from an October 1972 survey. Elevation record furnished by city of Corpus Christi and reviewed by the Geological Survey.

REVISIONS (WATER YEARS).--WSP 1923: 1953(M), 1957(M).

Capacity table (elevation, in feet, and contents, in acre-feet)

91.0	217,900	94.0	272,400
92.0	235,300	95.0	292,100
93.0	253,400		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	266600	264700	260900	257100	251600	244200	235300	270400	274300	262800	272400	272400
2	266600	264500	260900	257100	251600	242400	235300	272400	272400	260900	272400	272400
3	264700	264500	260900	257100	249700	240600	233500	272400	272400	260900	272400	272400
4	264700	264500	260900	257100	249700	242400	235300	270400	272400	260900	272400	272400
5	264700	264500	260900	257100	251600	244200	235300	270400	272400	260900	272400	272400
6	264700	264500	260900	257100	253400	242400	235300	274300	272400	266600	272400	272400
7	262800	270400	260900	257100	249700	240600	235300	276200	272400	270400	272400	272400
8	262800	270400	260900	255300	249700	242400	235300	276200	272400	272400	272400	272400
9	262800	270400	260900	255300	249700	242400	235300	272400	270400	272400	272400	272400
10	262800	270400	260900	255300	249700	242400	235300	272400	270400	270400	272400	274300
11	262800	270400	259000	255300	249700	240600	235300	272400	270400	274300	272400	272400
12	260900	270400	259000	255300	249700	242400	237000	272400	268500	272400	272400	272400
13	260900	268500	259000	255300	249700	242400	237000	274300	268500	272400	272400	274300
14	260900	266600	259000	255300	247900	240600	235300	272400	268500	272400	272400	274300
15	262800	264700	260900	255300	247900	240600	240600	272400	268500	274300	272400	272400
16	262800	266600	260900	255300	247900	240600	233500	272400	266600	272400	274300	272400
17	262800	266600	260900	253400	249700	238800	235300	272400	266600	272400	274300	272400
18	260900	266600	259000	253400	249700	238800	237000	272400	266600	272400	274300	272400
19	259000	266600	259000	253400	247900	238800	240600	272400	266600	272400	272400	272400
20	259000	266600	259000	255300	247900	238800	242400	274300	268500	272400	272400	274300
21	259000	266600	259000	253400	247900	238800	244200	272400	268500	272400	272400	274300
22	257100	264700	259000	253400	246100	237000	246100	272400	266600	272400	272400	272400
23	259000	264700	257100	253400	246100	237000	249700	274300	266600	272400	272400	272400
24	257100	264700	259000	253400	244200	237000	253400	272400	266600	272400	272400	272400
25	259000	262800	259000	255300	246100	237000	255300	272400	266600	272400	272400	272400
26	259000	262800	257100	253400	246100	238800	255300	274300	266600	272400	272400	274300
27	259000	262800	257100	253400	246100	237000	259000	272400	264700	272400	272400	272400
28	259000	260900	259000	253400	244200	237000	259000	272400	264700	272400	272400	274300
29	260900	260900	259000	253400	242400	237000	264700	272400	264700	272400	272400	272400
30	260900	262800	257100	251600	---	237000	268500	272400	262800	272400	272400	272400
31	260900	---	257100	251600	---	237000	---	272400	---	272400	272400	---
(†)	93.4	93.5	93.2	92.9	92.4	92.1	93.8	94.0	93.5	94.0	94.0	94.0
(*)	-5700	+1900	-5700	-5500	-9200	-5400	+31500	+3900	-9600	+9600	0	0
MAX	266600	270400	260900	260900	253400	244200	268500	276200	274300	274300	274300	274300
MIN	257100	260900	257100	251600	242400	237000	233500	270400	262800	260900	272400	272400
CAL YR 1975.....	+ -15300			MAX 278200			MIN 257100					
WTR YR 1976.....	+ +5800			MAX 276200			MIN 233500					

† Elevation, in feet, at end of month.
* Change in contents, in acre-feet.

NUECES RIVER BASIN

08210500 Lake Corpus Christi near Mathis, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	BIO-CHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)
FEB 24...	1220	682	8.1	14.5	9.6	93	--	210	61
APR 27...	1135	736	8.3	23.0	7.9	91	1.1	220	63
SEP 28...	0900	662	8.1	28.0	5.6	72	.6	190	55

DATE	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DIS-SOLVED PHOSPHATE (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)
FEB 24...	70	9.1	52	1.6	7.6	184	0	51	86
APR 27...	72	9.5	58	1.7	8.0	190	0	65	100
SEP 28...	61	8.2	54	1.7	8.0	160	0	51	90

DATE	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SiO2) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NITRATE PLUS NITRITE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MANGANESE (MN) (UG/L)
FEB 24...	.5	18	385	.00	.00	.14	10	0
APR 27...	.3	17	424	.01	.01	.11	0	30
SEP 28...	.2	20	371	.00	.00	.13	40	0

NUECES RIVER BASIN

425

08211000 Nueces River near Mathis, Tex.

LOCATION.--Lat 28°02'17", long 97°51'36", San Patricio-Jim Wells County line, on left bank 6 ft (2 m) downstream from pier of bridge on State Highway 359, 200 ft (61 m) downstream from Texas and New Orleans Railroad Co. bridge, 0.6 mile (1.0 km) downstream from Wesley E. Seale Dam, 4 miles (6 km) southwest of Mathis, and at mile 46.7 (75.1 km).

DRAINAGE AREA.--16,660 mi² (43,150 km²).

PERIOD OF RECORD.--Discharge: August 1939 to current year.

Water quality: Chemical analyses: October 1947 to current year. Chemical and biochemical analyses: October 1969 to September 1970. Water temperatures: October 1947 to September 1964, October 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 27.53 ft (8.391 m) above mean sea level.

AVERAGE DISCHARGE.--37 years, 859 ft³/s (24.33 m³/s), 622,300 acre-ft/yr (767 hm³/yr).

EXTREMES.--Discharge: Current year: Maximum discharge, 9,460 ft³/s (268 m³/s) July 10 (gage height, 26.49 ft or 8.074 m); minimum daily, 33 ft³/s (0.93 m³/s) Jan. 6, 28.

Period of record: Maximum discharge, 138,000 ft³/s (3,910 m³/s) Sept. 24, 1967 (gage height, 47.7 ft or 14.54 m, from floodmark); minimum daily, 6.8 ft³/s (0.19 m³/s) Aug. 15, 1940.

Historic: Maximum stage since at least 1888, that of Sept. 24, 1967. A stage of about 40 ft (12 m) occurred Sept. 20, 1919, from information by Texas and New Orleans Railroad Co. and is the second highest known.

Water quality: Current year: Maximum daily specific conductance, 847 micromhos May 25; minimum daily, 585 micromhos Oct. 1.

Period of record: Maximum daily specific conductance, 1,040 micromhos July 1, 1948; minimum daily, 216 micromhos Sept. 19, 1971. Maximum water temperatures, 36.0°C Aug. 8, 1964; minimum, 3.0°C Jan. 19, 1968.

REMARKS.--Discharge records good. Flow is regulated by Lake Corpus Christi 0.6 miles (1.0 km) upstream (station 08210500). Upstream from Lake Corpus Christi flow is affected by recharge to permeable formations, small diversions, and minor regulation. Water for municipal and industrial uses at Corpus Christi is released from Lake Corpus Christi above gage and is diverted from river at Calallen 34 miles (55 km) downstream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	118	58	72	44	51	57	87	119	484	138	2550	187
2	133	62	57	79	42	62	76	160	492	114	3050	176
3	109	70	57	118	50	59	71	323	243	86	3120	164
4	106	69	51	41	58	57	60	316	211	81	2860	173
5	104	63	47	37	54	64	36	224	200	77	2540	200
6	105	61	52	33	56	66	75	71	196	76	2440	197
7	105	61	63	108	48	54	70	592	177	316	1850	177
8	105	61	50	63	37	45	52	2600	162	2940	1120	173
9	105	61	47	43	39	61	43	4180	154	3680	1290	179
10	105	94	48	43	74	72	42	3840	143	4970	596	238
11	105	60	59	40	108	56	42	2580	131	2800	352	177
12	105	288	80	39	60	56	45	1180	126	3790	377	162
13	105	120	70	43	51	57	70	2040	122	3000	458	257
14	105	62	70	47	38	55	45	1570	116	4580	485	387
15	105	60	90	49	36	59	37	2410	103	2280	386	342
16	137	60	68	51	88	68	52	2790	91	2590	145	322
17	106	60	65	46	50	54	66	2510	59	3060	399	302
18	109	60	84	39	45	80	49	161	62	2270	762	286
19	104	60	56	39	45	64	49	174	72	2280	724	201
20	103	90	56	56	84	93	63	474	109	2230	655	2830
21	103	56	56	52	85	92	43	655	67	2040	276	6910
22	104	89	51	62	49	89	39	224	60	1200	156	7500
23	104	59	50	60	38	70	47	183	59	2250	256	4190
24	97	80	126	41	48	48	45	212	60	2490	267	4070
25	94	65	104	53	59	47	49	197	62	3050	267	4660
26	119	354	52	76	83	82	73	1010	61	3570	268	4060
27	77	73	46	37	63	89	55	1370	61	2920	244	5650
28	66	69	47	33	64	80	62	793	60	2470	254	3190
29	59	68	100	38	63	64	72	609	82	2310	214	1060
30	58	97	61	48	---	53	47	879	91	2540	202	1300
31	58	---	44	118	---	52	---	1040	---	2480	194	---
TOTAL	3118	2590	1979	1676	1666	2005	1662	35486	4116	68678	28757	49720
MEAN	101	86.3	63.8	54.1	57.4	64.7	55.4	1145	137	2215	928	1657
MAX	137	354	126	118	108	93	87	4180	492	4970	3120	7500
MIN	58	56	44	33	36	45	36	71	59	76	145	162
AC-FT	6180	5140	3930	3320	3300	3980	3300	70390	8160	136200	57040	98620

CAL YR 1975 TOTAL 188417 MEAN 516 MAX 12800 MIN 44 AC-FT 373700
WTR YR 1976 TOTAL 201453 MEAN 550 MAX 7500 MIN 33 AC-FT 399600

NUECES RIVER BASIN

08211000 Nueces River near Mathis, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)
OCT. 06...	1630	107	594	8.0	24.0	190	40	60	8.3	43
NOV. 28...	1600	68	652	8.2	--	190	43	64	8.3	47
DEC. 31...	1600	40	657	8.2	--	210	55	68	9.1	52
JAN. 30...	1600	46	678	8.2	--	220	62	71	9.4	55
FEB. 27...	1600	68	711	8.4	--	210	60	70	9.7	57
MAR. 27...	1600	103	743	8.2	--	220	66	73	9.9	59
APR. 25...	1600	50	779	8.3	24.0	230	68	74	10	62
MAY 26...	1600	1400	820	8.1	23.0	230	83	77	10	67
JUNE 15...	1600	110	805	8.3	28.0	230	78	74	10	67
JULY 26...	1630	3450	743	8.2	--	200	73	65	9.3	62
AUG. 10...	1600	600	683	8.2	29.5	180	56	58	8.8	58
SEP. 26...	1600	3800	637	8.3	28.5	190	44	61	8.4	46

DATE	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SI02) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
OCT. 06...	1.4	7.0	176	0	44	70	.3	20	339
NOV. 28...	1.5	7.6	184	0	48	75	.4	20	361
DEC. 31...	1.6	6.5	186	0	49	82	.3	20	379
JAN. 30...	1.6	7.5	188	0	53	89	.4	19	397
FEB. 27...	1.7	8.0	183	3	59	92	.3	19	408
MAR. 27...	1.7	9.8	191	0	60	98	.3	19	423
APR. 25...	1.8	8.0	192	0	58	100	.4	19	426
MAY 26...	1.9	7.0	184	0	74	110	.2	17	453
JUNE 15...	1.9	8.0	180	0	70	120	.3	18	456
JULY 26...	1.9	7.8	156	0	63	110	.2	17	411
AUG. 10...	1.9	7.6	152	0	50	98	.3	18	374
SEP. 26...	1.5	7.9	174	0	50	81	.2	20	360

NUECES RIVER BASIN

427

08211000 Nueces River near Mathis, Tex.--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

MONTH	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA+MG) (MG/L)
OCT. 1975.....	3118	602	340	2880	70	590	43	360	180
NOV. 1975.....	2590	622	350	2470	74	519	45	317	190
DEC. 1975.....	1979	650	370	1950	80	428	49	260	190
JAN. 1976.....	1676	673	380	1710	85	385	52	234	200
FEB. 1976.....	1603	696	390	1700	90	388	54	235	200
MAR. 1976.....	2005	730	410	2210	96	522	59	317	210
APR. 1976.....	1662	751	420	1880	100	448	61	274	210
MAY 1976.....	35486	800	440	42500	110	10400	67	6410	220
JUNE 1976.....	4116	807	450	4970	110	1220	68	754	230
JULY 1976.....	68678	748	420	77100	100	18500	60	11200	210
AUG. 1976.....	28757	707	400	30700	92	7130	56	4330	210
SEPT 1976.....	49720	643	370	49100	79	10600	48	6450	190
TOTAL	201390	**	**	219000	**	51100	**	31100	**
WTD.AVG.	551.75	721	410	**	94	**	57	**	210

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	585	615	636	656	694	710	750	755	818	800	731	671
2	589	591	643	658	695	710	753	750	818	803	723	684
3	613	611	639	662	685	709	753	755	815	800	719	682
4	597	611	647	666	685	722	741	735	809	797	719	674
5	602	611	643	670	687	715	753	755	803	800	712	670
6	594	616	643	670	687	729	751	766	803	797	712	662
7	605	611	639	662	695	729	751	760	805	797	698	664
8	605	616	643	674	685	722	751	766	818	792	696	668
9	592	616	647	674	693	717	753	771	815	778	694	670
10	595	620	643	674	687	715	753	776	800	770	694	668
11	595	620	643	674	693	722	753	793	809	765	694	668
12	592	616	639	674	696	720	751	835	812	762	689	670
13	613	638	636	662	696	725	747	822	808	748	695	668
14	603	614	636	670	694	739	749	816	805	743	702	668
15	603	614	643	678	698	723	754	816	805	741	705	666
16	594	617	655	678	698	730	757	816	805	738	725	658
17	594	617	659	678	698	732	752	816	805	736	690	658
18	594	621	655	674	696	732	749	816	802	738	684	664
19	594	621	659	678	701	737	754	816	796	738	682	688
20	605	623	655	678	696	731	743	816	788	743	682	654
21	612	631	659	682	698	746	751	835	788	738	684	649
22	611	631	659	678	709	731	751	822	791	738	684	649
23	611	628	655	678	705	730	751	822	796	738	684	660
24	611	625	659	678	703	735	753	816	794	738	676	633
25	611	625	655	674	705	736	753	847	791	738	676	634
26	621	625	655	678	705	736	753	816	791	738	682	633
27	611	635	659	692	705	736	753	816	791	734	682	626
28	611	635	659	684	707	746	756	816	791	729	682	626
29	614	635	659	682	709	743	751	816	791	729	679	629
30	603	630	659	682	---	748	753	816	794	737	683	621
31	612	---	659	682	---	753	---	816	---	737	679	---
MONTH	613	621	650	674	697	730	751	800	802	757	695	658

NUECES RIVER BASIN

08211000 Nueces River near Mathis, Tex.--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	23.0					22.0	24.0	24.5	29.0	29.5	29.5
2	25.5	23.0					22.0	23.5	26.0	29.0	---	29.5
3	25.5	23.0					22.0	23.5	29.0	28.5	29.0	29.5
4	25.5	23.0					22.0	24.0	28.5	29.0	29.5	29.5
5	25.5	23.0					21.0	24.0	28.5	29.0	29.5	29.5
6	25.5	21.0					21.0	24.5	28.5	28.0	29.5	29.5
7	25.0	21.0					21.0	24.0	28.0	28.0	29.5	29.5
8	25.0	21.0					22.0	24.0	27.0	28.0	---	29.5
9	25.0	21.0					23.0	23.0	28.0	28.0	29.5	29.5
10	25.0	20.0					22.0	23.5	28.0	28.0	29.5	29.5
11	25.0	23.0					22.0	---	28.0	---	29.5	29.5
12	25.5	21.0					21.5	24.0	28.0	28.0	---	29.5
13	25.5	20.0					21.5	24.0	28.0	28.0	---	29.5
14	25.5	20.0					22.0	24.0	28.0	---	---	29.5
15	25.5	20.0					22.0	24.0	28.0	---	---	29.5
16	25.0	20.0					22.0	24.0	28.0	---	29.5	29.5
17	25.0	20.0					22.0	24.0	29.0	---	29.5	29.5
18	25.0	20.0					22.0	24.0	29.0	---	29.5	29.5
19	25.0	20.0					22.0	24.0	29.5	---	29.5	28.5
20	24.5	19.0					22.0	24.0	29.5	---	29.5	28.5
21	24.5	---					24.0	24.0	29.5	---	---	28.5
22	24.0	---					24.0	24.0	30.0	---	---	29.5
23	24.5	---					24.0	26.0	30.0	---	---	28.5
24	24.5	---					24.0	26.0	30.0	---	---	28.5
25	22.0	---					24.0	---	29.0	---	---	28.5
26	22.0	---					24.0	---	29.0	---	28.5	28.5
27	23.0	---					24.0	23.0	29.5	---	28.5	28.5
28	23.0	---					24.0	23.0	30.0	---	29.0	28.0
29	23.0	---					24.0	23.0	29.5	29.5	29.0	27.0
30	23.0	---					24.0	23.0	29.5	29.5	29.0	27.0
31	23.0	---					---	23.5	---	29.0	29.5	---
MONTH	24.5	---					22.5	24.0	28.5	---	---	29.0

OSO CREEK BASIN

429

08211520 Oso Creek at Corpus Christi, Tex.

LOCATION.--Lat 27°42'40", long 97°30'06", Nueces County, on left downstream end of bridge on Farm Road 763, 1.5 miles (2.4 km) south of intersection of Farm Roads 763 and 665, 1.6 miles (2.6 km) downstream from mouth of West Oso Creek, and 1.9 miles (3.1 km) southwest of intersection of Farm Road 665 and State Highway 357.

DRAINAGE AREA.--90.3 mi² (233.9 km²).

PERIOD OF RECORD.--Discharge: September 1972 to current year.

Water quality: Chemical, biochemical, and pesticide analyses: July 1972 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1.91 ft (0.582 m) below mean sea level.

EXTREMES.--Current year: Maximum discharge, 4,590 ft³/s (130 m³/s) July 15 (gage height, 25.12 ft or 7.657 m); minimum, 0.79 ft³/s (0.022 m³/s) Dec. 9, 10.

Period of record: Maximum discharge, 6,110 ft³/s (173 m³/s) Oct. 12, 1973 (gage height, 26.09 ft or 7.952 m); minimum, 0.25 ft³/s (0.007 m³/s) Aug. 26, 27, 1973.

Maximum stage since 1919, that of Oct. 12, 1973. A stage of about 24.5 ft (7.47 m) occurred in May 1968, from information by local resident.

REMARKS.--Discharge records good. No known diversions above station. An undetermined amount of water from oilfield operations enters stream upstream at various points. Recording rain gage is located at station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	13	1.1	1.6	1.4	1.3	1.1	2.2	3.9	1.4	2.1	3.7
2	1.7	8.4	1.6	1.6	1.4	1.4	1.98	2.3	2.3	1.4	2.1	6.6
3	1.7	123	1.89	1.6	1.5	1.7	1.1	1.4	2.2	1.6	2.0	70
4	1.7	147	1.7	1.5	1.6	2.9	2.5	1.2	1.4	1.5	2.0	96
5	1.7	38	1.1	1.6	1.6	1.5	2.0	1.7	1.7	1.6	2.0	30
6	1.6	12	1.1	1.7	1.7	1.4	1.9	1.3	1.5	1.4	2.0	34
7	1.6	5.0	1.1	1.7	1.6	1.4	1.7	1.7	1.5	3.0	2.0	12
8	1.6	3.2	1.88	1.6	1.5	1.5	1.6	1.7	1.5	32	1.9	4.0
9	1.6	2.4	1.79	1.6	1.5	1.2	1.4	3.2	1.8	465	1.9	3.2
10	1.6	2.1	1.79	1.6	1.6	1.3	1.4	2.7	1.7	1450	1.8	2.3
11	1.6	1.8	1.85	1.6	1.7	1.4	1.2	2.3	1.6	1560	1.8	1.7
12	1.6	1.6	1.92	1.6	1.7	1.4	1.1	2.3	1.6	502	1.8	1.5
13	1.6	1.2	1.90	1.4	1.6	1.3	3.0	71	1.3	136	1.8	1.4
14	1.4	1.1	1.89	1.3	1.7	1.3	2.0	53	1.4	1870	1.8	3.7
15	1.6	1.2	1.80	1.4	1.6	1.3	5.4	32	1.3	3000	1.8	1.8
16	1.7	1.3	1.0	1.4	1.6	1.2	6.0	12	1.3	888	1.8	1.8
17	2.0	1.2	7.3	1.4	1.6	1.2	5.0	5.7	1.5	326	1.9	1.5
18	1.4	1.2	5.4	1.4	1.6	1.3	1.3	3.4	1.8	138	2.0	1.4
19	1.4	1.2	3.2	1.4	1.5	1.2	1.8	2.4	2.1	61	2.0	2.2
20	1.3	1.2	2.2	1.4	1.5	1.3	11	105	1.8	29	1.8	2.9
21	1.3	1.1	1.7	5.0	1.4	1.2	14	129	1.5	14	1.8	26
22	1.4	1.98	1.7	4.2	1.3	1.2	21	87	1.3	8.3	1.7	15
23	1.4	1.09	1.6	2.2	1.2	1.2	9.9	28	1.6	5.7	1.8	7.3
24	1.4	1.89	4.7	1.9	1.2	1.4	4.4	9.7	1.4	4.3	1.9	4.0
25	2.4	1.94	4.4	2.4	1.3	1.3	2.0	4.1	1.5	3.6	2.3	2.5
26	61	1.6	6.9	2.4	1.4	1.3	1.4	414	1.4	3.1	2.6	4.1
27	128	1.0	4.7	1.4	1.4	1.2	1.2	407	1.4	2.8	2.5	44
28	41	1.1	3.6	1.3	1.4	1.2	1.2	128	1.5	2.6	2.3	64
29	32	1.2	2.0	1.4	1.4	1.2	48	43	1.4	2.4	2.2	29
30	101	1.1	1.7	1.5	---	1.2	18	16	1.4	2.2	2.1	12
31	40	---	1.6	1.4	---	1.1	---	7.2	---	2.1	2.3	---
TOTAL	445.1	375.30	67.21	55.4	43.5	42.0	175.08	1609.8	50.6	10520.4	61.8	489.6
MEAN	14.4	12.5	2.17	1.79	1.50	1.35	5.84	51.9	1.69	339	1.99	16.3
MAX	128	147	7.3	5.0	1.7	2.9	48	414	3.9	3000	2.6	96
MIN	1.3	1.89	1.79	1.3	1.2	1.1	1.98	1.2	1.3	1.4	1.7	1.4
AC-FT	883	744	133	110	86	83	347	3190	100	20870	123	971

CAL YR 1975 TOTAL 5887.86 MEAN 16.1 MAX 955 MIN .77 AC-FT 11680
WTR YR 1976 TOTAL 13935.79 MEAN 38.1 MAX 3000 MIN .79 AC-FT 27640

PEAK DISCHARGE (BASE, 300 FT³/S)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
5-20	1600	9.83	316	7-11	0100	20.61	2,010
5-26	1100	13.04	738	7-15	0100	25.12	4,590

OSO CREEK BASIN

08211520 Oso Creek at Corpus Christi, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)
OCT.											
06...	1445	1.6	5140	7.7	25.0	28	10.9	131	1.4	910	770
NOV.											
10...	1550	2.0	3910	7.9	25.0	20	10.0	120	1.8	780	640
DEC.											
17...	1015	5.2	3230	7.8	12.5	60	10.0	93	2.6	580	420
FEB.											
02...	1445	1.4	3980	8.4	17.0	7	14.0	144	2.8	680	550
MAR.											
19...	0945	1.4	4020	8.1	21.5	10	9.4	107	4.0	710	560
APR.											
26...	1505	1.5	3000	8.0	29.0	90	7.8	100	7.0	600	450
JUNE											
07...	1605	1.6	4830	8.3	33.0	30	--	--	8.4	930	810
JULY											
19...	1445	52	865	7.4	32.0	100	6.7	92	1.7	210	84
AUG.											
31...	1130	2.1	4380	7.7	28.0	25	8.2	105	3.6	770	640

DATE	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	BROMIDE (BR) (MG/L)
OCT.											
06...	290	46	750	11	13	181	0	200	1500	--	--
NOV.											
10...	250	37	500	7.8	13	178	0	180	1100	.4	4.3
DEC.											
17...	180	31	460	8.3	20	188	0	160	900	1.9	--
FEB.											
02...	210	37	580	9.7	19	154	0	180	1200	.5	--
MAR.											
19...	220	38	580	9.5	21	182	0	190	1200	.6	3.3
APR.											
26...	190	31	400	7.1	14	182	0	130	850	.4	--
JUNE											
07...	300	45	660	9.4	22	146	0	230	1500	.4	--
JULY											
19...	69	8.3	84	2.5	9.0	150	0	34	180	.3	.9
AUG.											
31...	240	42	600	9.4	20	157	0	170	1200	.4	--

DATE	IODIDE (I) (MG/L)	DIS- SOLVED SILICA (SI02) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L)	TOTAL NON- FILT- RABLE RESIDUE (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
OCT.										
06...	--	19	2910	56	4.6	.09	.23	1.4	3.9	11
NOV.										
10...	.41	21	2200	45	2.1	.06	.25	.55	2.0	10
DEC.										
17...	--	17	1860	104	2.5	.08	.27	1.0	8.2	--
FEB.										
02...	--	7.7	2310	17	10	.65	.48	.92	2.4	12
MAR.										
19...	.46	4.8	2350	22	6.8	.40	.29	1.2	2.4	10
APR.										
26...	--	21	1730	186	1.3	.12	.17	1.2	3.0	2.0
JUNE										
07...	--	17	2850	67	5.4	.14	.08	1.4	1.6	12
JULY										
19...	.09	24	484	228	.19	.05	.09	.79	.55	14
AUG.										
31...	--	25	2370	46	1.8	.08	.10	1.4	3.2	14

08211520 Oso Creek at Corpus Christi, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		DIS-SOLVED ALUMINUM (AL) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	DIS-SOLVED CHROMIUM (CR) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)				
DATE	TIME											
NOV. 10...	1550	10	32	1100	0	0	0	4				
MAR. 19...	0945	10	11	680	1	0	0	2				
JULY 19...	1445	0	26	90	0	0	0	3				
DATE	TIME	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	DIS-SOLVED MANGANESE (MN) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED STRONTIUM (SR) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)			
NOV. 10...	20	20	80	240	.0	0	4500	10				
MAR. 19...	10	0	80	300	.2	2	3300	10				
JULY 19...	20	0	20	140	.3	0	600	20				
DATE	TIME	TOTAL PCB (UG/L)	PCH IN BOTTOM MATERIAL (UG/KG)	POLY-CHLORINATED NAPHTHALENES (UG/L)	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL CHLORDANE (UG/L)	CHLORDANE IN BOTTOM MATERIAL (UG/KG)	TOTAL DDD (UG/L)	DDD IN BOTTOM MATERIAL (UG/KG)	TOTAL DDE (UG/L)	DDE IN BOTTOM MATERIAL (UG/KG)
NOV. 10...	1550	.0	0	--	.00	.0	.0	0	.00	2.8	.00	4.9
MAR. 19...	0945	.0	0	.00	.00	.0	.0	0	.00	4.4	.00	3.1
JULY 19...	1445	.0	0	.00	.00	.2	.0	0	.00	.0	.00	.0
DATE	TIME	TOTAL DDT (UG/L)	DDT IN BOTTOM MATERIAL (UG/KG)	TOTAL DIAZINON (UG/L)	TOTAL DIELDRIN (UG/L)	DIELDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL ETHION (UG/L)	HEPTACHLOR IN BOTTOM MATERIAL (UG/KG)	TOTAL HEPTACHLOR EPOXIDE (UG/L)	HEPTACHLOR EPOXIDE IN BOTTOM MATERIAL (UG/KG)
NOV. 10...	.00	.0	.10	.00	.1	.00	.0	.00	.00	.0	.00	.0
MAR. 19...	.00	5.8	.08	.00	.2	.00	.0	.00	.00	.0	.00	.0
JULY 19...	.00	.0	.00	.00	.0	.00	.0	.00	.00	.0	.00	.0
DATE	TIME	TOTAL LINDANE (UG/L)	LINDANE IN BOTTOM MATERIAL (UG/KG)	TOTAL MALATHION (UG/L)	TOTAL METHYL PARATHION (UG/L)	METHYL PARATHION (UG/L)	TOTAL PARA-THION (UG/L)	TOX-APHENE IN BOTTOM MATERIAL (UG/KG)	TOTAL TRI-THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
NOV. 10...	.01	.0	.00	.00	.00	.00	0	0	.00	.03	.03	.00
MAR. 19...	.07	.2	.00	.00	.00	.00	0	0	.00	.00	.00	.00
JULY 19...	.00	.0	.00	.00	.00	.00	.03	0	0	.00	.00	.00

SAN FERNANDO CREEK BASIN

08211800 San Diego Creek at Alice, Tex.

LOCATION.--Lat 27°45'59", long 98°04'31", Jim Wells County, at bridge on Edith Drive in Alice, 540 ft (165 m) downstream from Texas and New Orleans Railroad Co. bridge, and 3.2 miles (5.1 km) upstream from confluence with Chiltipin Creek.

DRAINAGE AREA.--319 mi² (826 km²).

PERIOD OF RECORD.--September 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 189.60 ft (57.790 m) above mean sea level.

AVERAGE DISCHARGE.--13 years, 12.8 ft³/s (0.362 m³/s), 9,270 acre-ft/yr (11.4 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 1,310 ft³/s (37.1 m³/s) July 10 (gage height, 7.69 ft or 2.344 m); no flow at times.

Period of record: Maximum discharge, 19,200 ft³/s (544 m³/s) Oct. 17, 1971 (gage height, 17.70 ft or 5.395 m); no flow most of time each year.

Maximum stage since at least 1928, 18.2 ft (5.55 m) April 1949, equivalent gage height in channel modified in 1955, 17.2 ft (5.24 m), from information by local residents.

REMARKS.--Records good. At end of year, flow from 170 mi² (440 km²) above this station was partly controlled by 10 floodwater-retarding structures with a combined detention capacity of 35,980 acre-ft (44.4 hm³) below the flood-spillway crests.

REVISIONS (WATER YEARS).--WRD Texas 1972: 1971.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							0	0	1.8	.05	.19	.01
2							0	0	2.5	.01	.15	.01
3							0	0	.20	0	.10	.01
4							3.4	0	.09	0	.07	.01
5							.75	0	.05	0	.06	.02
6							.20	0	.03	0	.04	.02
7							.04	0	.02	1.0	.03	.01
8							0	0	.01	11	.02	.01
9							0	0	0	34	.02	.09
10							0	.04	0	294	.02	.11
11							0	.14	0	349	.01	.02
12							0	.05	0	45	.02	.02
13							0	.23	0	17	.02	.06
14							0	.11	0	98	.02	.06
15							0	.05	0	68	.02	.06
16							0	.02	0	19	.01	.03
17							0	0	0	7.4	.02	.02
18							0	0	0	2.5	.02	.02
19							0	0	0	.93	.02	.02
20							27	0	0	.45	.01	.04
21							6.4	0	0	.34	.01	.04
22							1.1	0	0	2.7	.01	.03
23							.45	0	0	4.7	.01	.01
24							.25	0	0	1.4	.01	.01
25							.14	0	0	.63	.01	.01
26	.01						.06	29	0	9.3	.01	.03
27	.01						.02	40	1.0	6.0	.01	.16
28							0	12	.54	1.6	.01	.05
29							0	2.8	.28	.41	.02	.10
30					---	---	0	.64	.14	.35	.02	.10
31			---		---	---	---	.29	---	.23	.02	---
TOTAL	.02	0	0	0	0	0	40.01	85.42	6.70	975.20	1.01	1.19
MEAN	.0006	0	0	0	0	0	1.33	2.76	.22	31.5	.033	.040
MAX	.01	0	0	0	0	0	27	40	2.5	349	.19	.16
MIN	0	0	0	0	0	0	0	0	0	0	.01	.01
AC-FT	.04	0	0	0	0	0	79	169	13	1930	2.0	2.4

CAL YR 1976 TOTAL 100.00 MEAN .29 MAX 30 MIN 0 AC-FT 210
WYR YR 1976 TOTAL 1119.55 MEAN 3.03 MAX 349 MIN 0 AC-FT 2200

PEAK DISCHARGE (BASE, 250 FT³/S).--July 10 (2200) 1,310 ft³/s (7.69 ft).

08211850 Lake Alice at Alice, Tex.

LOCATION.--Lat 27°47'25", Long 98°03'39", Jim Wells County, on right bank just upstream from Alice Dam on Chiltipin Creek, 1.8 miles (2.9 km) upstream from confluence of Chiltipin and San Diego Creeks, and 2.6 miles (4.2 km) northeast of Alice.

DRAINAGE AREA.--150 mi² (388 km²).

PERIOD OF RECORD.--December 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by city of Alice).

EXTREMES.--Current year: Maximum contents, 3,290 acre-ft (4.06 hm³) July 14 (elevation, 196.77 ft or 59.975 m); minimum, 216 acre-ft (0.266 hm³) Dec. 16 (elevation, 190.13 ft or 57.952 m).

Period of record: Maximum contents, 4,780 acre-ft (5.89 hm³) Sept. 12, 1971 (elevation, 198.83 ft or 60.603 m, from floodmark); minimum, 14 acre-ft (17,300 m³) Feb. 3, 1965 (elevation, 185.67 ft or 56.592 m).

REMARKS.--The lake is formed by a rolled earthfill dam, which has a total length of 11,525 ft (3,513 m). The dam consists of the main embankment 3,470 ft (1,060 m) long and two protective levees. The west protective levee is 4,275 ft (1,303 m) long and the east protective levee is 2,343 ft (714 m) long. Storage began Oct. 26, 1964, and the dam was completed Mar. 16, 1965. The emergency spillway is 1,000 ft (305 m) wide and is located between the main embankment and the west levee. Collapsible flashboards, 3.5 ft (1.1 m) high, were added to the crest of the emergency spillway. The main spillway is 414 ft (126 m) wide with thirteen 30-foot-wide (9-meter) slots for gates, but no gates have been installed at the present time. The main spillway is located between the main embankment and the east levee. The service spillway is a concrete siphon-type spillway, 22.5 ft (6.9 m) wide with a 3.5 ft (1.1 m) opening, located in the main embankment section. The dam is the property of the Alice Water Authority and was built to store water for use by the city of Alice. The area and capacity tables are based on revised maps surveyed in 1963. At end of year, flow from 111 mi² (287 km²) above this station was partly controlled by seven floodwater-retarding structures with a combined capacity of 22,680 acre-ft (28.0 hm³) below the flood-spillway crests, of which 1,110 acre-ft (1.37 hm³) is sediment-pool capacity. The capacity in these pools allocated to sediment storage will be used for conservation storage until eliminated by sedimentation. Records furnished by the city of Alice show that 4,390 acre-ft (5.41 hm³) was diverted during the current year for municipal use. Records furnished by the city of Corpus Christi show that 3,500 acre-ft (4.32 hm³) was diverted to Lake Alice from Lake Corpus Christi during the current year. Data regarding the dam and lake are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam.....	205.0	-
Top of west levee.....	202.0	-
Top of collapsible flashboards.....	199.5	5,300
Top of east levee.....	199.0	4,910
Crest of main spillway.....	196.5	3,110
Crest of spillway.....	196.0	2,780
Crest of siphon spillway (lowest outlet).....	196.0	2,780

COOPERATION.--The area and capacity tables are furnished by the Alice Water Authority.

Capacity table (elevation, in feet, and contents, in acre-feet)

190.0	195	194.0	1,640
190.5	288	195.0	2,180
191.0	423	196.0	2,780
192.0	754	197.0	3,440
193.0	1,160		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	404	41	221	282	347	295	275	432	708	500	2680	1820
2	347	34	225	286	344	241	262	435	722	467	2650	1800
3	344	34	225	284	344	244	262	432	714	475	2620	1770
4	341	34	226	288	341	244	336	426	715	472	2590	1740
5	344	34	230	293	344	243	343	429	708	469	2560	1720
6	344	34	230	303	344	244	364	429	697	456	2530	1700
7	372	34	234	305	344	244	372	441	697	444	2500	1670
8	364	34	232	305	344	307	372	444	690	472	2470	1640
9	364	34	232	307	344	304	366	450	683	588	2440	1650
10	355	34	233	312	344	300	364	456	680	1570	2400	1630
11	352	317	232	315	352	305	364	453	667	3230	2370	1610
12	347	312	234	317	347	303	377	453	673	3200	2340	1590
13	341	317	223	317	344	298	343	441	644	3180	2300	1620
14	336	317	218	317	341	303	343	478	641	3240	2270	1600
15	336	316	216	320	344	307	343	441	631	3210	2240	1660
16	324	313	216	320	344	300	346	441	614	3160	2210	1640
17	321	303	220	320	347	296	366	475	604	3110	2200	1640
18	315	296	223	323	344	296	406	475	601	3070	2180	1620
19	311	277	224	323	344	288	409	472	591	3030	2150	1620
20	305	266	232	323	336	291	459	444	614	3000	2120	1600
21	294	26	234	328	333	279	441	444	611	2940	2100	1580
22	295	245	237	337	330	277	432	441	594	2950	2070	1560
23	294	241	243	325	325	277	434	444	588	2920	2050	1540
24	292	234	244	33	317	282	441	475	564	2900	2020	1520
25	285	224	250	338	317	256	426	462	552	2880	1990	1500
26	274	22	254	333	315	241	417	440	555	2850	1970	1540
27	303	250	264	333	312	284	412	476	543	2830	1940	1540
28	315	256	266	336	305	246	417	476	539	2800	1910	1520
29	307	253	266	338	293	266	424	464	532	2770	1880	1510
30	307	221	273	338	---	277	429	456	516	2740	1870	1480
31	312	---	277	344	---	277	---	456	---	2760	1840	---
(+)	190.60	190.16	190.45	190.72	190.52	190.45	191.02	191.75	191.30	195.87	194.40	193.69
(-)	-100	-91	+56	+67	-51	-16	+152	+237	-150	+2184	-860	-360
MAX	409	328	277	344	352	307	459	680	722	3290	2680	1820
MIN	282	220	216	262	293	277	262	426	516	444	1840	1480
CAL YR 1975.....	* -545			MAX 964	MIN 216							
WTR YR 1976.....	* +1068			MAX 3290	MIN 216							

+ Elevation, in feet, at end of month.

* Change in contents, in acre-feet.

SAN FERNANDO CREEK BASIN

08211900 San Fernando Creek at Alice, Tex.

LOCATION.--Lat 27°46'20", long 98°02'00", Jim Wells County, on left bank 34 ft (10 m) downstream from downstream bridge of two bridges on State Highways 44 and 359, 0.5 mile (0.8 km) downstream from confluence of San Diego and Chiltipin Creeks, 2.3 miles (3.7 km) upstream from head of Pintas Creek, and 2.7 miles (4.3 km) northeast of Alice.

DRAINAGE AREA.--507 mi² (1,313 km²).

PERIOD OF RECORD.--December 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is 161.68 ft (49.280 m) above mean sea level.

AVERAGE DISCHARGE.--11 years (1965-76), 33.7 ft³/s (0.954 m³/s), 24,420 acre-ft/yr (30.1 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 6,310 ft³/s (179 m³/s) July 11 (gage height, 12.31 ft or 3.752 m); minimum, 0.67 ft³/s (0.019 m³/s) for several days.

Period of record: Maximum discharge, 26,800 ft³/s (759 m³/s) Sept. 12, 1971 (gage height, 16.51 ft or 5.032 m); no flow part of each day Aug. 23-26, Sept. 14, 1965, several days in June, July, and August 1967, and part of Dec. 27, 1972.

Maximum stage since at least 1949, that of Sept. 12, 1971. Other high stages for this period are 15.86 ft (4.834 m) Sept. 23, 1967 (discharge, 16,900 ft³/s or 479 m³/s); 15.5 ft (4.72 m) Sept. 9, 1962 (discharge, 14,600 ft³/s or 413 m³/s) from field estimate; 14.2 ft (4.33 m) Sept. 14, 1951. Discharge for flood of Sept. 14, 1951, may have exceeded that for 1962 as the highway was raised between 1952 and 1962. Flood in 1951 was higher at site of discontinued station "San Fernando Creek near Alice." Flood in 1962 was higher than that of 1967 at site of discontinued station; there is a diversion into the Pintas Creek basin between the two gaging sites, and apparently this diversion was greater in 1967 than in 1962.

REMARKS.--Records good. San Diego Creek joins Chiltipin Creek below Lake Alice to form San Fernando Creek. Flow regulated by Lake Alice (station 08211850) 2.3 miles (3.7 km) upstream on Chiltipin Creek since Oct. 26, 1964. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see San Diego Creek at Alice (station 08211800). Records furnished by city of Alice show that they discharged 4,060 acre-ft (5.01 hm³) of sewage effluent into San Diego Creek 1.3 miles (2.1 km) upstream, which comprises most of the low flow.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	1.2	1.1	1.1	1.6	1.1	.96	1.4	6.4	3.5	2.8	1.7
2	1.3	1.2	.95	1.3	1.4	1.1	1.0	1.2	28	3.1	2.8	1.6
3	1.3	1.4	1.1	1.3	1.4	1.1	1.5	1.5	11	2.9	2.3	1.4
4	1.1	1.3	.98	1.2	1.6	1.1	18	1.5	5.3	3.4	2.3	1.9
5	1.3	1.4	1.2	1.2	1.5	1.2	28	1.3	4.2	3.5	2.7	1.6
6	1.3	1.3	1.1	1.3	1.7	1.1	6.2	1.3	4.1	3.5	2.1	1.6
7	1.3	1.4	1.2	1.3	1.7	1.2	1.9	1.6	3.9	3.0	2.6	1.8
8	1.2	1.4	1.1	1.3	1.7	1.2	1.3	1.9	3.5	3.6	2.4	1.4
9	1.1	1.3	1.1	1.3	1.7	1.4	1.3	1.6	3.4	26	2.4	1.8
10	1.3	1.2	1.1	1.2	1.5	1.2	1.2	1.9	3.4	642	2.1	2.2
11	1.3	1.3	1.2	1.3	1.3	1.1	1.1	1.9	3.3	3350	1.9	1.8
12	1.3	1.3	1.1	1.2	1.5	1.7	.94	1.8	3.6	436	1.7	1.7
13	1.3	1.2	1.1	1.3	1.5	1.4	1.0	2.7	3.9	122	1.5	4.1
14	.80	1.2	1.2	1.2	1.5	1.2	1.3	3.3	3.4	418	2.0	4.7
15	1.3	1.2	1.2	1.2	1.6	1.9	1.3	2.5	3.3	540	2.1	2.4
16	1.3	1.2	1.2	1.3	1.5	1.3	1.3	2.3	3.6	99	1.6	21
17	1.3	1.2	1.1	1.3	1.4	.84	1.3	2.4	3.5	42	1.8	6.3
18	1.3	1.2	1.2	1.3	1.3	1.2	1.5	2.3	3.0	25	2.0	2.6
19	1.3	1.1	1.2	1.6	1.2	2.0	1.6	1.9	3.7	17	1.9	2.4
20	1.3	1.1	1.2	1.4	1.4	2.1	.86	2.2	3.8	12	1.9	2.3
21	1.2	1.2	1.1	1.3	1.4	1.7	49	2.8	3.5	8.8	1.9	1.7
22	1.2	1.2	1.1	1.4	1.3	1.9	8.1	2.6	3.0	7.0	1.9	1.5
23	1.9	1.2	1.2	1.4	1.1	1.4	2.8	2.8	3.5	7.9	1.6	1.5
24	1.2	1.2	1.3	1.6	1.1	1.2	1.8	2.8	3.1	6.4	1.5	1.3
25	1.2	1.1	1.2	1.6	1.1	1.3	1.4	2.6	3.4	4.4	1.5	1.1
26	1.2	1.2	1.2	1.6	.96	1.4	1.0	59	3.7	5.0	1.1	1.8
27	1.2	1.2	1.3	1.6	1.0	1.5	.96	79	3.5	8.9	1.3	8.8
28	1.2	1.2	1.2	1.4	1.1	1.4	1.2	23	3.5	4.1	1.6	3.4
29	1.2	1.2	1.3	1.3	1.1	1.4	1.3	11	3.4	3.8	1.6	1.9
30	1.2	1.2	1.2	1.6	---	1.4	1.3	8.0	3.3	2.8	1.4	1.5
31	1.2	---	1.2	1.7	---	1.0	---	4.7	---	3.0	1.3	---
TOTAL	37.50	37.0	35.93	42.1	40.16	41.74	227.56	238.8	142.2	5817.6	59.6	90.8
MEAN	1.21	1.23	1.16	1.36	1.38	1.35	7.59	7.70	4.74	188	1.92	3.03
MAX	1.3	1.4	1.3	1.7	1.7	2.1	86	79	3.8	3350	2.8	21
MIN	.80	1.1	.95	1.1	.96	.84	.94	1.2	2.0	2.8	1.1	1.1
AC-FT	74	73	71	84	80	83	451	474	282	11540	118	180
CAL YR 1975 TOTAL	829.13			2.27	94	MIN .30	AC-FT 1640					
WTR YR 1976 TOTAL	6810.99			18.6	3350	MIN .80	AC-FT 13510					

LOS OLMOS CREEK BASIN

435

08212400 Los Olmos Creek near Falfurrias, Tex.
(National stream-quality accounting network)

LOCATION.--Lat 27°15'51", long 98°08'08", Brooks County, at downstream side of bridge on U.S. Highway 281 and 2.6 miles (4.2 km) north of Falfurrias.

DRAINAGE AREA.--480 mi² (1,243 km²), of which 4.5 mi² (11.7 km²) is probably noncontributing.

PERIOD OF RECORD.--Discharge: January 1967 to current year.

Water quality: Chemical, biochemical, and pesticide analyses: October 1974 to current year. Water temperatures: October 1974 to current year.

GAGE.--Water-stage recorder and V-notch weir low-water control. Datum of gage is 116.58 ft (35.534 m) above mean sea level.

AVERAGE DISCHARGE.--9 years, 6.73 ft³/s (0.191 m³/s), 0.19 in/yr (5 mm/yr), 4,880 acre-ft/yr (6.02 hm³/yr).

EXTREMES.--Discharge: Current year: Maximum discharge, 232 ft³/s (6.57 m³/s) July 14 (gage height, 6.20 ft or 1.890 m); no flow at times.
Period of record: Maximum discharge, 5,300 ft³/s (150 m³/s) Sept. 13, 1971 (gage height, 12.66 ft or 3.859 m); no flow at times in 1970-76.

Historic: Maximum stage since at least 1929, 15.0 ft (4.57 m) Sept. 13, 1951, from information by Texas Highway Department.

Water quality: Current year: Maximum daily specific conductance, 7,380 micromhos July 5; minimum daily, 83 micromhos July 14.

Maximum water temperatures, 33.0°C July 29, Aug. 1.

Period of record: Maximum daily specific conductance (1974-76), 7,380 micromhos July 5, 1976; minimum daily, 69 micromhos July 16, 1975. Maximum water temperatures, 33.0°C July 29, Aug. 1, 1976.

REMARKS.--Discharge records good. La Gloria Oil Refinery no longer releases waste during low-flow periods.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.04	.04	.04	.11	0	.01	.02	.09	.01	0	.07	.03
2	.07	.10	.03	.06	0	.01	.01	.06	.02	0	.07	.02
3	.07	.10	.05	.03	0	.01	0	.05	.02	0	.04	0
4	.06	.08	.06	.02	0	0	.61	.04	0	.02	.03	0
5	.04	.06	.06	.03	.02	0	1.0	.05	0	.01	.03	0
6	.03	.03	.05	.06	.03	0	.33	.05	0	2.3	.04	0
7	.01	.04	.05	.05	.02	.01	.12	.07	.03	.47	.12	0
8	0	.10	.04	.04	.03	0	.70	.11	.03	3.1	.06	0
9	.02	.09	.05	.05	.03	0	.48	.06	.03	7.2	.06	0
10	.05	.08	.07	.07	.02	0	.18	.05	.03	122	.05	0
11	.05	.07	.06	.06	.02	0	.09	.04	.03	212	.05	0
12	.04	.04	.05	.04	.02	0	.09	.03	.02	179	.06	0
13	.04	.02	.04	.04	.02	0	.31	.05	.02	56	.04	0
14	.05	.03	.04	.03	.02	0	.28	.06	.02	141	.05	0
15	.04	.05	.04	.04	.01	0	.10	.03	.03	189	.09	0
16	.07	.08	.03	.04	0	0	.08	.03	.03	142	.08	0
17	.06	.08	.03	.02	.01	0	.07	.03	.02	30	.07	0
18	.06	.08	.05	.02	.01	0	.07	.03	.02	12	.10	0
19	.05	.08	.05	.03	.02	0	.07	.02	.01	4.3	.18	0
20	.04	.08	.05	.03	.01	.02	.39	.02	0	6.0	.05	3.1
21	.07	.05	.09	.04	.01	.03	.24	.03	.03	5.5	.03	5.2
22	.06	.03	.08	.05	.01	.03	.08	.04	.03	3.4	.02	.37
23	.03	.03	.07	.04	.01	.05	.08	.04	.03	1.5	0	.13
24	.03	.04	.06	.03	0	.07	.13	.04	.03	.93	0	.46
25	.05	.04	.04	.03	0	.05	.08	.04	.01	.52	0	.27
26	.66	.03	.03	.02	0	.03	.06	.04	0	.29	.01	.10
27	.27	.06	.03	.04	0	.03	.04	.06	0	.08	.02	.07
28	.06	.07	.03	.04	0	.03	.04	.04	0	.14	.02	.07
29	.06	.06	.03	.02	0	.03	.11	.03	0	.10	.06	.07
30	.07	.05	.03	.01	---	.03	.34	.03	0	.07	.07	.07
31	.04	---	.04	0	---	.03	---	.01	---	.07	.03	---
TOTAL	2.38	1.81	1.47	1.19	.32	.47	6.20	1.37	.50	1119.00	1.64	9.96
MEAN	.077	.060	.047	.038	.011	.015	.21	.044	.017	36.1	.053	.33
MAX	.66	.10	.09	.11	.03	.07	1.0	.11	.03	212	.18	5.2
MIN	0	.02	.03	0	0	0	0	.01	0	0	0	0
CFSM	0	0	0	0	0	0	0	0	0	.08	0	0
IN.	.0002	.0001	.0001	.00009	.00002	.00003	.0005	.0001	.00003	.09	.0001	.0008
AC-FT	4.7	3.6	2.9	2.4	.6	.9	12	2.7	1.0	2220	3.3	20

CAL YR 1975 TOTAL 370.04 MEAN 1.01 MAX 196 MIN 0 CFSM .002 IN .03 AC-FT 734
WTR YR 1976 TOTAL 1146.31 MEAN 3.13 MAX 212 MIN 0 CFSM .006 IN .09 AC-FT 2270

PEAK DISCHARGE (BASE, 100 FT³/S).--July 10 (2400) 229 ft³/s (6.14 ft); July 14 (2200) 232 ft³/s (6.20 ft).

LOS OLMOS CREEK BASIN

08212400 Los Olmos Creek near Falfurrias, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)	IMME- DIATE COLI- FORM (COL. PER 100 ML)	FECAL COLI- FORM (COL. PER 100 ML)	STREP- TOCOCCI (COL- ONIES PER 100 ML)
OCT. 22...	1000	.06	4490	7.9	22.5	6	5.3	61	5.0	2900	460	560
NOV. 19...	1030	.10	4880	8.4	22.5	12	5.8	66	6.3	8000	88	560
DEC. 09...	1510	.06	5260	8.6	17.0	4	10.3	106	2.2	92	15	110
JAN. 20...	1500	.05	5400	8.5	13.0	7	10.6	100	2.8	850	24	500
MAR. 23...	1340	.11	6390	8.5	19.0	15	5.8	62	13	3700	800	3200
APR. 27...	1410	.06	2740	7.9	26.0	25	5.9	72	12	280	65	260
MAY 25...	1335	.06	4930	7.9	27.5	15	5.1	64	8.4	460	43	440
JULY 20...	1330	1.6	280	7.3	29.5	20	6.5	86	3.9	2000	310	2800
AUG. 17...	1520	.07	4010	8.5	28.5	5	8.4	109	4.9	5400	340	2600
SEP. 21...	1340	2.4	545	7.1	26.5	110	5.6	71	4.0	12000	10000	100000

DATE	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)
OCT. 22...	890	730	240	71	730	11	71	192	0	1200	770	--
NOV. 19...	880	760	220	81	790	12	53	148	0	1300	780	6.3
DEC. 09...	970	810	250	83	840	12	58	160	13	1300	850	2.3
JAN. 20...	950	800	240	85	900	13	58	177	0	1400	930	2.5
MAR. 23...	1200	1100	290	110	1200	15	72	156	0	1900	1200	3.2
APR. 27...	470	360	120	41	400	8.0	35	138	0	630	430	1.6
MAY 25...	940	840	240	83	760	11	55	129	0	1400	790	2.1
JULY 20...	70	3	21	4.3	22	1.1	12	82	0	35	23	.3
AUG. 17...	750	550	190	65	610	9.7	40	212	13	1000	650	1.5
SEP. 21...	88	53	24	6.8	66	3.1	12	43	0	110	69	.3

DATE	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	SUS- PENDE SEDI- MENT (MG/L)	SUS- PENDE SEDI- MENT DIS- CHARGE (T/DAY)	SUS. SED. SIEVE DIAM. & FINER THAN .062 MM
OCT. 22...	60	3310	3240	.01	.00	.22	1.2	1.8	--	11	.00	99
NOV. 19...	72	3520	3380	.00	.01	.23	1.3	2.1	--	22	.01	99
DEC. 09...	73	3820	3550	.00	.01	.16	.78	1.8	--	11	.00	98
JAN. 20...	76	3860	3780	.01	.01	.17	1.2	2.0	--	18	.00	83
MAR. 23...	78	4700	4930	.01	.00	.60	.40	2.3	--	20	.01	96
APR. 27...	51	1870	1780	.00	.00	.13	2.1	1.9	15	31	.01	97
MAY 25...	60	3540	3450	.00	.00	.21	1.5	1.8	--	35	.01	100
JULY 20...	23	184	181	.00	.01	.02	.98	.82	--	25	.11	97
AUG. 17...	44	2920	2720	.00	.00	.04	1.3	.92	15	46	.01	30
SEP. 21...	11	302	320	.24	.03	.08	1.0	.46	--	108	.70	98

08212400 Los Olmos Creek near Falfurrias, Tex --Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	DIS-SOLVED ALUMINUM (AL) (UG/L)	TOTAL ARSENIC (AS) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	TOTAL CADMIUM (CD) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	TOTAL CHROMIUM (CR) (UG/L)	DIS-SOLVED CHROMIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)
APR. 27...	1410	60	9	9	690	0	0	20	0	0
AUG. 17...	1520	20	7	7	2400	0	0	20	15	0
DATE		DIS-SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	TOTAL MANGANESE (MN) (UG/L)
APR. 27...		0	11	6	1100	20	4	0	90	100
AUG. 17...		0	6	4	130	40	8	0	130	80
DATE		DIS-SOLVED MANGANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	TOTAL SELENIUM (SE) (UG/L)	DIS-SOLVED SELENIUM (SE) (UG/L)	DIS-SOLVED STRONTIUM (SR) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
APR. 27...		60	.0	.0	0	5	4	2500	20	10
AUG. 17...		40	.1	.1	0	9	8	3900	30	10

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PERIPHYTON

Date	Length of exposure (days)	Biomass (g/m ²)		Chlorophyll a (mg/m ²)	Chlorophyll b (mg/m ²)	Biomass pigment ratio	Sampling method
		Dry weight	Ash weight				
MAY 25	28	9.00	5.85	33.8	6.87	93	Polyethylene strip

08212400 Los Olmos Creek near Falfurrias, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

OCT. 22, 1975 1000 HOURS

PHYTOPLANKTON 70,000 CELLS/ML

ORGANISM_NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...OCCYSTACEAE		
....ANKISTRODESMUS	480	1
....TETRAEDRON		0
....SCENEDESMACEAE		
....CRUCIGENIA	960	1
....SCENEDESMUS	960	1
..VOLVOCALES		
....CHLAMYDOMONADACEAE		
....CHLAMYDOMONAS		0
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..PENNALES		
...FRAGILARIACEAE		
...FRAGILARIA		0
...NAVICULACEAE		
...AMPHIPRORA		0
...NAVICULA		0
...NITZSCHIA		
....NITZSCHIA	7,900	11
CYANOPHYTA		
..MYXOPHYCEAE		
...CHROOCOCCALES		
...CHROOCOCCACEAE		
....AGMENELLUM	1,900	3
...OSCILLATORIALES		
...NOSTOCACEAE		
....ANABAENOPSIS		0
...OSCILLATORIA		
....ARTHROSPIRA	49,000	70
....OSCILLATORIA	7,900	11
EUGLENOPHYTA		
..CRYPTOPHYCEAE		
...CRYPTOMONIDALES		
...CRYPTOMONODACEAE		
....CRYPTOMONAS		0
..EUGLENOPHYCEAE		
...EUGLENALES		
....EUGLENACEAE		
....EUGLENA		0
....PHACUS		0
....TRACHELOMONAS		0

NOV. 19, 1975 1030 HOURS

PHYTOPLANKTON 61,000 CELLS/ML

ORGANISM_NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...OCCYSTACEAE		
....ANKISTRODESMUS	1,700	3
....SCENEDESMACEAE		
....SCENEDESMUS	10,000	17
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINODISCACEAE		
...CYCLOTELLA	1,700	3
..PENNALES		
...NAVICULACEAE		
...NAVICULA	2,600	4
...NITZSCHIA		
....NITZSCHIA	26,000	43
CYANOPHYTA		
..MYXOPHYCEAE		
...OSCILLATORIALES		
...OSCILLATORIA		
....OSCILLATORIA	10,000	17
....RIVULARIACEAE		
....RAPHIIDIOPSIS	6,900	11
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
...EUGLENALES		
....EUGLENACEAE		
....EUGLENA	860	1

DEC. 9, 1975 1510 HOURS

PHYTOPLANKTON 33,000 CELLS/ML

ORGANISM_NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...SCENEDESMACEAE		
....SCENEDESMUS		0
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINODISCACEAE		
...CYCLOTELLA		0
..PENNALES		
...GOMPHONEMACEAE		
....GOMPHONEMA		0
...NITZSCHIA		
....NITZSCHIA	6,600	20
CYANOPHYTA		
..MYXOPHYCEAE		
...OSCILLATORIALES		
...NOSTOCACEAE		
....ANABAENOPSIS	1,300	4
...OSCILLATORIA		
....OSCILLATORIA	25,000	76

JAN. 20, 1976 1500 HOURS

PHYTOPLANKTON 2,900 CELLS/ML

ORGANISM_NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...OCCYSTACEAE		
....ANKISTRODESMUS	89	3
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINODISCACEAE		
...CYCLOTELLA		0
..PENNALES		
...FRAGILARIACEAE		
...FRAGILARIA		0
...GOMPHONEMACEAE		
....GOMPHONEMA	89	3
...NAVICULACEAE		
...AMPHIPRORA		0
...NAVICULA		0
...NITZSCHIA		
....NITZSCHIA	2,700	91
EUGLENOPHYTA		
..CRYPTOPHYCEAE		
...CRYPTOMONIDALES		
...CRYPTOMONODACEAE		
....CRYPTOMONAS	89	3

08212400 Los Olmos Creek near Falfurrias, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

MAR. 23, 1976 1340 HOURS

PHYTOPLANKTON 520,000 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
...HYDRODICTYACEAE		
...PEDIASTRUM		0
..ZYGEMATALES		
...ZYGEMATACEAE		
...MOUGEOTIA		0
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..PENNALES		
...GOMPHONEMATACEAE		
...GOMPHONEMA		0
...NAVICULACEAE		
...AMPHIPRORA		0
...NAVICULA		0
...NITZSCHIA		
...NITZSCHIA	110,000	20
...SURIPELLACEAE		
...SURIPELLA		0
CYANOPHYTA		
..MYXOPHYCEAE		
..OSCILLATORIALES		
...OSCILLATORIA	240,000	46
...PROPHYROSIPHON	180,000	33
EUGLENOPHYTA		
..CRYPTOPHYCEAE		
..CRYPTOMONADALES		
...CRYPTOMONADACEAE		
...CRYPTOMONAS		0
..EUGLENOPHYCEAE		
..EUGLENALES		
...EUGLENACEAE		
...EUGLENA		0
...PHACUS		0
PYRRHOPHYTA		
..DINOPHYCEAE		
..PERIDINIALES		
...GLENODINIACEAE		
...GLENODINIUM		0

APR. 27, 1976 1410 HOURS

PHYTOPLANKTON 48,000 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
...COELASTRACEAE		
...COELASTRUM	3,200	7
...MICRACINTACEAE		
...GOLENKINIA	390	1
...DCCYSTACEAE		
...ANKISTRODES MUS	7,500	16
...DCCYSTIS	1,600	3
...SELENASTRUM	2,000	4
...SCENEDESMACEAE		
...ACTINASTRUM	3,200	7
...SCENEDESMUS	9,900	21
...TETRASTRUM	3,600	7
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINUHISCACEAE		
...CYCLOTELLA	790	2
..PENNALES		
...ACHNANTHACEAE		
...ACHNANTHES	390	1
...CUCCONELIS	790	2
...NAVICULACEAE		
...NAVICULA	1,200	2
...NITZSCHIA		
...NITZSCHIA	7,900	12
..CHRYSOPHYCEAE		
..CHRYSMONADALES		
...CHRYSMONADACEAE		
...OCHROMONAS	390	1
CYANOPHYTA		
..MYXOPHYCEAE		
..CHLOROCOCCALES		
...CHLOROCOCCACEAE		
...ANACYSTIS	6,300	13
EUGLENOPHYTA		
..CRYPTOPHYCEAE		
..CRYPTOMONADALES		
...CRYPTOMONADACEAE		
...CRYPTOMONAS	390	1
PYRRHOPHYTA		
..DINOPHYCEAE		
..GYMNODINIALES		
...GYMNODINIACEAE		
...GYMNODINIUM	390	1

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

MAY 25, 1976 1335 HOURS

PHYTOPLANKTON 120,000 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..CHAPACIACEAE		
..SCHROEDERIA		0
..OCCYSTACEAE		
..ANKISTRODESMUS	4,000	3
..TETRAEDRON	810	1
..SCENEDESMACEAE		
..SCENEDESMUS	9,700	8
..VOLVOCALES		
..CHLAMYDOMONADACEAE		
..CHLAMYDOMONAS	2,000	2
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..PENNALES		
..FRAGILARIACEAE		
..SYNEDRA	4,000	3
..NAVICULACEAE		
..AMPHIPRORA		0
..NAVICULA	2,800	2
..TROPIDONEIS		0
..NITZSCHACEAE		
..NITZSCHIA	43,000	35
..SURIRELLACEAE		
..CAMPYLODISCUS		0
CYANOPHYTA		
..MYXOPHYCEAE		
..CHROOCOCCALES		
..CHROOCOCCACEAE		
..ANACYSTIS	5,300	4
..OSCILLATORIALES		
..NOSTOCACEAE		
..ANABAENOPSIS	1,600	1
..OSCILLATORIAEAE		
..LYNGBYA	47,000	38
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
..EUGLENALES		
..EUGLENACEAE		
..PHACUS		0

JULY 20, 1976 1330 HOURS

PHYTOPLANKTON 3,600 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..OCCYSTACEAE		
..ANKISTRODESMUS	73	2
..DICTYOSPHAERIUM	290	8
..KIRCHNERIELLA	580	16
..SCENEDESMACEAE		
..SCENEDESMUS	440	12
..ZYGNEMATALES		
..DESMIDIACEAE		
..CLOSTERIUM	150	4
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCAEAE		
..CYCLOTELLA	870	24
..MELOSIRA		0
..PENNALES		
..NAVICULACEAE		
..GYROGMA	73	2
..NITZSCHACEAE		
..NITZSCHIA	360	10
CYANOPHYTA		
..MYXOPHYCEAE		
..CHROOCOCCALES		
..CHROOCOCCACEAE		
..ANACYSTIS	150	4
EUGLENOPHYTA		
..CRYPTOPHYCEAE		
..CRYPTOMONADALES		
..CRYPTOMONADACEAE		
..CRYPTOMONAS	510	14
..EUGLENOPHYCEAE		
..EUGLENALES		
..EUGLENACEAE		
..PHACUS	73	2

AUG. 17, 1976 1520 HOURS

PHYTOPLANKTON 130,000 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..MICRACTINIACEAE		0
..GOLINKINIA		
..OCCYSTACEAE		
..ANKISTRODESMUS		0
..KIRCHNERIELLA		0
..OOCYSTIS	2,900	2
..TETRAEDRON		0
..SCENEDESMACEAE		
..ACTINASTRUM	3,800	3
..SCENEDESMUS	1,700	1
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..CHAETOCERACEAE		
..CHAETOCEROS	4,600	4
..COSCINODISCAEAE		
..CYCLOTELLA	2,700	2
..PENNALES		
..NAVICULACEAE		
..NAVICULA		0
..NITZSCHACEAE		
..NITZSCHIA	1,300	1
CYANOPHYTA		
..MYXOPHYCEAE		
..CHROOCOCCALES		
..CHROOCOCCACEAE		
..AGMENELLUM	1,700	1
..ANACYSTIS	9,400	7
..OSCILLATORIALES		
..NOSTOCACEAE		
..ANABAENOPSIS	38,000	30
..OSCILLATORIAEAE		
..LYNGBYA	48,000	38
..OSCILLATORIA	10,000	8
..SPIRULINA		0

SEP. 21, 1976 1340 HOURS

PHYTOPLANKTON 25,000 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..OCCYSTACEAE	550	2
..ANKISTRODESMUS	550	2
..DICTYOSPHAERIUM		
..SCENEDESMACEAE		
..ACTINASTRUM	180	1
..SCENEDESMUS	3,900	16
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCAEAE		
..CYCLOTELLA	180	1
..PENNALES		
..NAVICULACEAE		
..NAVICULA	550	2
..NITZSCHACEAE		
..NITZSCHIA	370	1
CYANOPHYTA		
..MYXOPHYCEAE		
..CHROOCOCCALES		
..CHROOCOCCACEAE		
..ANACYSTIS	920	4
..OSCILLATORIALES		
..OSCILLATORIAEAE		
..LYNGBYA	15,000	59
..OSCILLATORIA	3,000	12

08212400 Los Olmos Creek near Falfurrias, Tex.--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

MONTH	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA+MG) (MG/L)
OCT. 1975.....	2.38	3300	2200	14	540	3.2	820	5.2	600
NOV. 1975.....	1.81	4720	3260	16	790	3.9	1260	6.3	880
DEC. 1975.....	1.47	5520	3860	15	930	3.5	1500	5.9	1040
JAN. 1976.....	1.19	5420	3780	12	920	2.8	1470	4.8	1020
FEB. 1976.....	0.32	5930	4160	3.2	1000	0.9	1630	1.3	1130
MAR. 1976.....	0.47	6600	4670	6	1120	1.4	1840	2.2	1260
APR. 1976.....	6.2	2690	1760	29	440	7.2	640	10	480
MAY 1976.....	1.37	3870	2630	9.6	640	2.3	990	3.4	710
JUNE 1976.....	0.5	6090	4280	5.6	1030	1.4	1680	1.9	1160
JULY 1976.....	1118	141	90	273	13	40	18	55	30
AUG. 1976.....	1.64	3540	2380	10	590	2.6	890	3.7	650
SEPT 1976.....	9.96	717	460	12	94	2.5	140	3.8	130
TOTAL	1146.31	**	**	405	**	71.7	**	103	**
WTD.AVG.	3.14	202	130	**	23	**	34	**	44

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C) WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2290	3880	5500	5200	---	6200	6800	2940	5360	---	2190	3950
2	2530	4000	5470	5380	---	6190	6800	3000	5370	---	2250	3910
3	2730	4120	5460	5360	---	6190	---	3020	5440	---	2450	---
4	2880	4260	5440	5350	---	---	3000	3010	---	7360	2530	---
5	2900	4340	5450	5340	5960	---	2190	3080	---	7380	2530	---
6	2940	4380	5430	5330	5820	---	3560	3240	---	2000	2800	---
7	3000	4410	5400	5340	5890	6200	2360	3370	5700	2430	2990	---
8	---	4430	5300	5350	5400	---	3010	3550	5750	1800	3120	---
9	3140	4500	5280	5360	5860	---	2400	3510	5800	573	3320	---
10	3340	4580	5400	5370	5900	---	2420	3520	5900	150	3480	---
11	3640	4640	5500	5380	5890	---	2350	3610	5990	116	3630	---
12	3740	4690	5540	5400	5880	---	2300	3720	6080	126	3700	---
13	3780	4790	5560	5410	5900	---	2140	3740	6170	116	3800	---
14	3850	4870	5490	5420	5920	---	2690	3870	6120	83	3970	---
15	3940	4760	5380	5440	5940	---	2350	4010	6150	94	3970	---
16	4130	4800	5600	5450	---	---	2510	4100	6190	126	4000	---
17	4230	4870	5630	5540	5960	---	2630	4150	6300	280	4000	---
18	4290	4910	5660	5520	5980	---	2700	4170	6340	291	3970	---
19	4360	4880	5670	5500	6000	---	2810	4290	6360	299	4240	---
20	4340	5000	5680	5400	6100	6750	2950	4250	---	349	3990	800
21	4440	5150	5660	5540	6150	6870	2680	4320	6530	614	4020	545
22	4490	5220	5680	5520	6200	6870	2550	4450	6490	465	4040	724
23	4640	5250	5690	5500	6210	6390	2540	4620	6510	582	---	828
24	4670	5250	5620	5500	---	6620	2650	4680	6530	562	---	1070
25	4690	5260	5600	5600	---	6610	2780	4930	6560	614	---	1120
26	2600	5260	5540	5690	---	6590	2820	4790	---	617	4060	1150
27	2900	5300	5560	5570	---	6590	2740	4450	---	796	4000	1180
28	3550	5320	5500	5620	---	6710	2840	4470	---	919	3970	1230
29	3710	5350	5470	5640	---	6620	2840	4430	---	1540	3930	1250
30	3760	5460	5480	5680	---	6650	2960	5290	---	1750	3880	1280
31	3850	---	5470	---	---	6690	---	5290	---	2230	3970	---
MONTH	3650	4800	5520	5460	---	---	2950	4040	---	1230	3530	---

LOS OLMOS CREEK BASIN

08212400 Los Olmos Creek near Falfurrias, Tex.--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.0	23.5	11.0	---	---	---	10.5	20.0	25.0	---	33.0	---
2	21.5	---	13.0	16.5	---	20.5	---	20.5	24.0	---	22.0	24.0
3	20.0	23.5	13.0	---	---	20.5	---	19.0	24.5	---	25.0	---
4	19.0	22.0	14.0	---	---	---	---	19.0	---	26.0	25.5	---
5	---	21.0	19.5	---	17.0	---	20.0	20.5	---	---	25.0	---
6	---	20.5	19.5	10.0	14.0	---	16.0	22.0	---	---	26.0	---
7	---	21.0	---	13.0	9.5	---	20.0	23.5	---	24.0	28.0	---
8	---	23.0	---	5.0	---	---	20.0	22.0	---	---	28.0	---
9	24.0	---	13.0	5.5	---	---	20.0	23.0	23.5	24.0	26.0	---
10	24.5	---	13.0	10.5	---	---	20.0	22.0	24.0	---	26.0	---
11	24.5	20.5	15.5	12.0	---	---	20.0	23.5	30.0	25.0	24.5	---
12	26.0	19.0	14.0	14.0	---	---	20.5	23.0	28.0	24.5	24.5	---
13	23.5	15.0	18.0	18.0	---	---	20.0	23.0	23.5	25.5	26.0	---
14	23.5	13.0	---	15.0	---	---	20.0	20.5	24.0	24.0	26.5	---
15	24.5	13.5	20.5	11.5	---	---	20.0	20.0	25.5	24.5	27.0	---
16	24.0	---	13.0	15.0	---	---	20.0	23.0	25.5	26.0	---	---
17	23.0	18.0	12.0	10.0	---	---	23.0	22.0	26.0	25.0	30.5	---
18	20.0	20.0	9.0	---	---	---	---	20.0	25.0	26.0	28.0	---
19	20.5	20.0	---	13.5	---	---	---	21.0	---	27.0	28.0	---
20	19.0	16.5	---	13.0	---	20.0	28.0	21.5	---	26.0	25.0	---
21	21.5	13.5	---	11.5	---	10.0	23.5	20.5	24.5	26.0	---	24.0
22	23.0	10.0	10.5	11.0	---	10.5	23.0	---	26.0	30.0	28.0	23.0
23	23.0	10.0	11.5	11.5	9.5	10.5	23.0	23.0	26.0	26.5	---	22.0
24	24.0	10.0	---	15.0	---	10.0	23.0	23.0	26.5	26.0	---	---
25	24.5	9.5	---	---	---	20.0	25.5	25.0	---	26.0	---	25.0
26	---	---	9.0	11.0	---	20.0	22.0	24.0	---	28.0	---	30.5
27	---	---	9.5	8.5	---	20.0	23.0	26.0	---	26.0	---	28.0
28	21.5	16.0	---	8.5	---	20.0	23.5	24.0	---	27.0	---	25.0
29	24.0	20.5	10.5	---	---	20.0	23.0	23.0	---	33.0	27.0	22.0
30	22.0	---	10.5	---	---	20.0	20.0	23.5	---	27.0	28.0	21.0
31	23.5	---	8.5	---	---	10.5	---	25.0	---	28.0	25.0	---
MONTH	22.5	---	---	---	---	---	21.0	22.0	---	---	---	---

RIO GRANDE BASIN

443

08364000 Rio Grande at El Paso, Tex.

LOCATION.--Lat 31°48'10", long 106°32'25", at gaging station on the downstream side of the Courchesne Bridge, 5.6 miles (9.0 km) upstream from the Santa Fe Street-Juarez Avenue bridge between El Paso, Tex., and Cd. Juarez, Mex., and 1.7 miles (2.7 km) upstream from the American Dam.

DRAINAGE AREA.--29,267 mi² (75,802 km²).

PERIOD OF RECORD.--Chemical analyses: February 1930 to current year.

REMARKS.--Records of specific conductance and discharge for water year 1976 are given in International Boundary and Water Commission Water Bulletins Nos. 45 and 46.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)
OCT										
01-31	226	1940	8.0	420	190	120	29	270	5.7	12
NOV										
01-30	152	2230	8.2	460	210	130	33	320	6.5	11
DEC										
01-31	148	2300	8.3	490	210	140	33	320	6.3	12
JAN										
01-31	254	1560	8.0	340	130	100	22	200	4.7	8.5
FEB										
01-29	246	1450	7.9	340	120	100	21	180	4.3	10
MAR										
01-31	653	1040	7.5	270	97	82	16	120	3.2	6.5
APR										
01-30	845	1010	7.7	260	98	80	15	110	3.0	6.8
MAY										
01-31	975	961	7.7	250	84	76	15	100	2.7	--
JUN										
01-30	842	1040	7.8	270	89	81	16	120	3.2	--
JUL										
01-31	779	1110	8.0	290	100	86	17	130	3.4	--
AUG										
01-31	933	1060	8.0	270	89	83	16	120	3.2	--
SEP										
01-30	530	1370	8.1	320	120	96	20	170	4.1	--

DATE	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SI02) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED BORON (B) (UG/L)
OCT									
01-31	262	0	460	220	--	27	1280	.18	310
NOV									
01-30	312	0	520	260	--	28	1460	--	410
DEC									
01-31	332	0	540	260	--	27	1500	.00	360
JAN									
01-31	252	0	340	190	--	26	1000	.41	200
FEB									
01-29	262	0	320	150	--	24	935	.12	160
MAR									
01-31	212	0	210	100	--	19	660	.30	170
APR									
01-30	200	0	220	84	--	13	528	--	190
MAY									
01-31	204	0	200	74	--	9.3	575	.02	190
JUN									
01-30	218	0	230	85	--	10	650	.10	170
JUL									
01-31	224	0	240	96	.6	12	693	.19	240
AUG									
01-31	224	0	220	89	.6	12	652	.27	170
SEP									
01-30	250	0	300	140	--	17	868	.40	260

RIO GRANDE BASIN

08365600 McKelligon Canyon at El Paso, Tex.

LOCATION.--Lat 31°49'17", long 106°28'03", El Paso County, on left bank 120 ft (37 m) south of McKelligon Canyon Drive, 0.1 mile (0.2 km) west of Alabama Avenue, 0.5 mile (0.8 km) south of crest of Sugarload Mountain, and 4.4 miles (7.1 km) north of El Paso County Court-house.

DRAINAGE AREA.--2.3 mi² (6.0 km²), approximately.

PERIOD OF RECORD.--October 1957 to current year.

GAGE.--Water-stage recorder and small earthfill dam with uncontrolled concrete outlet tower. Datum of gage is 4,257.33 ft (1,297.63 m) above mean sea level (levels by city of El Paso).

AVERAGE DISCHARGE.--19 years, 0.011 ft³/s (0.0003 m³/s), 7.97 acre-ft/yr (9,830 m³/yr).

EXTREMES.--Current year: No flow during year.

Period of record: Maximum discharge, 306 ft³/s (8.67 m³/s) July 14, 1973 (gage height, 5.66 ft or 1.725 m); no flow except Sept. 11, 12, 1958, July 14-18, 1973.

REMARKS.--No flow since July 18, 1973. Floodflow controlled by four small reservoirs upstream with a capacity of about 95 acre-ft (117,000 m³).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31		---			---		---		---			---
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
MEAN	0	0	0	0	0	0	0	0	0	0	0	0
MAX	0	0	0	0	0	0	0	0	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	0	0	0	0	0	0
CAL YR 1975	TOTAL	0.00	MEAN	0	MAX	0	MIN	0	AC-FT	0		
WTR YR 1976	TOTAL	0.00	MEAN	0	MAX	0	MIN	0	AC-FT	0		

RIO GRANDE BASIN

445

08365800 Government Ditch at El Paso, Tex.

LOCATION.--Lat 31°47'02", long 106°26'41", El Paso County, at intersection of Montana and Houston Streets and 2 miles (3 km) northeast of the business center of El Paso.

DRAINAGE AREA.--6.4 mi² (16.6 km²), approximately.

PERIOD OF RECORD.--June 1958 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 3,740 ft (1,140 m), from topographic map.

AVERAGE DISCHARGE.--18 years, 0.22 ft³/s (0.0062 m³/s), 0.47 in/yr (12 mm/yr), 159 acre-ft/yr (196,000 m³/yr).

EXTREMES.--Current year: Maximum discharge, 321 ft³/s (9.09 m³/s) July 15 (gage height, 1.76 ft or 0.536 m); no flow most of time.
Period of record: Maximum discharge, 550 ft³/s (15.6 m³/s) Sept. 11, 1958 (gage height, 2.64 ft or 0.805 m), from rating curve extended above 148 ft³/s (4.19 m³/s) on basis of slope-area measurement of peak flow; no flow most of time each year.

REMARKS.--Records good.

REVISIONS (WATER YEARS).--WSP 1923: 1958-60.: 1958-60.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0		0	0	0		0	0	0	.71	0	0
2	0		0	.04	0		0	0	0	.95	0	0
3	0		0	0	0		0	0	0	0	0	0
4	0		0	0	2.1		0	.4	0	0	0	0
5	0		0	0	.04		0	.60	.94	4.4	0	3.9
6	0		0	0	0		0	.52	.34	.24	0	.04
7	0		0	0	0		0	.01	.12	0	0	0
8	0		0	0	0		0	0	0	0	0	.90
9	0		0	0	0		0	0	0	0	0	.01
10	0		0	0	0		0	0	0	0	0	0
11	0		0	0	.94		0	0	0	.11	.01	0
12	0		0	0	1.1		0	0	0	.02	0	0
13	0		0	0	0		0	0	0	.27	0	0
14	0		0	0	0		0	0	0	.01	0	35
15	0		0	0	0		1.9	0	0	29	0	.89
16	0		0	0	0		0	0	0	.23	0	0
17	0		0	0	0		0	0	0	0	.40	0
18	0		0	0	0		0	0	0	0	0	0
19	0		0	0	0		0	.32	0	0	0	0
20	0		0	0	0		0	.11	0	0	0	0
21	2.5		.10	0	0		0	.01	0	3.3	0	0
22	.05		.03	0	0		0	0	0	0	0	0
23	0		2.4	1.0	0		0	0	0	0	0	0
24	0		.01	.53	0		0	0	.55	0	0	.02
25	0		0	0	0		0	0	0	0	0	.06
26	0		0	0	0		0	0	0	0	0	1.1
27	0		0	0	0		0	0	0	0	0	.08
28	0		0	0	0		0	0	0	0	0	0
29	0		0	0	0		0	0	0	1.1	0	0
30	0		0	0	---		0	0	0	.02	0	0
31	0	---	0	0	---		---	0	---	0	0	---
TOTAL	2.55	0	2.54	1.57	4.22	0	1.9	6.97	1.95	40.76	.41	42.00
MEAN	.082	0	.082	.051	.15	0	.063	.22	.065	1.31	.013	1.40
MAX	2.5	0	2.4	1.0	2.1	0	1.9	5.4	.94	29	.40	35
MIN	0	0	0	0	0	0	0	0	0	0	0	0
CFSM	.01	0	.01	.007	.02	0	.009	.03	.01	.20	.002	.22
IN.	.01	0	.01	.009	.02	0	.01	.04	.01	.24	.002	.24
AC-FT	5.1	0	5.0	3.1	8.4	0	3.8	14	3.9	81	.8	83
CAL YR 1975	TOTAL 54.42	MEAN .15	MAX 27	MIN 0	CFSM .02	IN .32	AC-FT 108					
WTR YR 1976	TOTAL 104.87	MEAN .29	MAX 35	MIN 0	CFSM .05	IN .61	AC-FT 208					

PEAK DISCHARGE (BASE, 70 FT³/S).--July 15 (0315) 321 ft³/s (1.76 ft); Sept. 14 (0730) 319 ft³/s (1.75 ft).

RIO GRANDE BASIN

08370500 Rio Grande at Fort Quitman, Tex.
(National stream-quality accounting network)

LOCATION.--Lat 31°05'05", long 105°36'25", at gaging station on the rectified channel of the Rio Grande, 1.5 miles (2.4 km) downstream from Old Fort Quitman, and 81.1 miles (130.5 km) downstream from the American Dam at El Paso.

DRAINAGE AREA.--32,035 mi² (82,971 km²), United States and Mexico; from International Boundary and Water Commission Water Bulletin No. 31.

PERIOD OF RECORD.--Chemical analyses: February 1930 to current year. Chemical and biochemical analyses: October 1974 to current year. Water temperatures: October 1974 to current year.

EXTREMES.--Current year: Maximum daily specific conductance, 9,450 micromhos Mar. 12; minimum daily, 1,500 micromhos July 15. Maximum water temperatures, 35.0°C Aug. 10; minimum, 3.5°C Jan. 2, 3.

Period of record: Maximum daily specific conductance (1974-76), 9,670 micromhos May 27, 1975; minimum daily, 1,500 micromhos July 15, 1976. Maximum water temperatures, 35.0°C Aug. 10, 1976; minimum, 3.5°C Jan. 2, 3, 1976.

REMARKS.--Records of discharge for water year 1976 are given in International Boundary and Water Commission Water Bulletins Nos. 45 and 46.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)	IMME- DIATE COLI- FORM (COL. PER 100 ML)
OCT										
01-31	--	130	4820	7.8	--	--	--	--	--	--
27...	0800	81	4880	8.0	12.5	20	9.8	92	3.5	1600
NOV										
01-30	--	137	4260	7.8	--	--	--	--	--	--
18...	0830	162	4150	7.9	10.0	40	10.3	92	12	7100
DEC										
01-31	--	204	3930	8.2	--	--	--	--	--	--
16...	1100	100	4270	8.1	5.0	10	12.1	95	8.4	1800
JAN										
01-31	--	64	4710	8.2	--	--	--	--	--	--
27...	1030	45	4010	8.2	7.0	10	12.8	106	8.4	620
FEB										
01-29	--	51	5300	7.9	--	--	--	--	--	--
23...	0930	30	8130	8.1	6.0	50	12.6	103	3.0	53
MAR										
01-31	--	44	5710	7.6	--	--	--	--	--	--
22...	0930	25	8480	7.8	12.5	10	11.3	108	3.8	90
APR										
01-30	--	59	6350	7.9	--	--	--	--	--	--
27...	0830	42	8490	8.0	17.5	20	10.7	114	4.4	310
MAY										
01-31	--	317	3400	8.0	--	--	--	--	--	--
24...	0745	190	5760	7.8	18.5	140	7.6	82	6.2	8400
JUN										
01-30	--	125	4840	8.1	--	--	--	--	--	--
23...	0730	55	8580	7.8	23.0	90	7.8	96	6.3	7200
JUL										
01-31	--	204	4300	8.0	--	--	--	--	--	--
26...	0830	300	4750	7.8	23.5	150	7.1	87	8.7	21000
AUG										
01-31	--	44	7080	8.0	--	--	--	--	--	--
24...	0830	35	3850	8.0	23.5	90	9.5	116	11	39000
SEP										
01-30	--	175	3480	8.0	--	--	--	--	--	--
27...	0930	35	5920	7.2	18.5	130	8.1	91	3.6	27000

RIO GRANDE BASIN

447

08370500 Rio Grande at Fort Quitman, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	FECAL COLI- FORM (COL. PER 100 ML)	STREP- TOCOCOCCI (COL- ONIES PER 100 ML)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)
OCT									
01-31	--	--	950	680	270	66	740	10	14
27...	170	160	980	690	280	67	750	10	12
NOV									
01-30	--	--	830	550	240	56	650	9.4	14
18...	76	110	880	570	260	55	640	9.4	14
DEC									
01-31	--	--	780	520	220	56	620	9.7	15
16...	240	44	860	540	240	64	660	9.8	16
JAN									
01-31	--	--	850	590	240	62	730	11	16
27...	20	58	780	520	220	55	630	9.8	12
FEB									
01-29	--	--	990	740	270	76	830	12	17
23...	31	54	1500	1200	400	120	1400	16	11
MAR									
01-31	--	--	1000	790	270	78	880	12	14
22...	52	40	1600	1300	430	130	1400	15	17
APR									
01-30	--	--	1100	890	300	86	980	13	14
27...	88	110	1600	1300	420	130	1400	15	16
MAY									
01-31	--	--	640	430	180	46	480	8.3	--
24...	260	320	1100	840	320	77	890	12	14
JUN									
01-30	--	--	900	680	250	68	740	11	--
23...	68	88	1700	1400	480	130	1400	15	17
JUL									
01-31	--	--	760	550	210	57	640	10	--
26...	1800	1500	870	610	250	60	750	11	14
AUG									
01-31	--	--	1400	1200	370	110	1100	13	--
24...	540	1100	710	500	200	50	600	9.8	12
SEP									
01-30	--	--	630	410	180	45	500	8.6	--
27...	700	960	1100	830	320	79	930	12	14

DATE	BICARB- ONATE (HCO3) (MG/L)	CAN- ONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SIO2) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTIT- UENTS) (MG/L)	TOTAL NITRATE (N) (MG/L)
OCT									
01-31	320	0	880	1000	--	29	--	3160	--
27...	355	0	780	1070	--	25	3310	3160	.70
NOV									
01-30	344	0	730	840	--	30	--	2730	--
18...	376	0	670	890	.9	30	2720	2750	.36
DEC									
01-31	320	0	700	780	--	30	--	2600	--
16...	388	0	700	890	1.1	28	2840	2790	.26
JAN									
01-31	320	0	840	1000	--	28	--	3090	--
27...	316	0	690	820	.9	24	2660	2610	.70
FEB									
01-29	298	0	880	1100	--	25	--	3350	--
23...	364	0	1300	1900	.8	27	5380	5350	.03
MAR									
01-31	250	0	940	1300	--	22	--	3630	--
22...	350	0	1400	2200	.9	27	5560	5780	.00
APR									
01-30	256	0	1000	1500	--	24	--	4030	--
27...	348	0	1400	2000	1.0	25	5670	5560	.00
MAY									
01-31	256	0	550	660	--	20	--	2070	--
24...	340	0	1000	1300	.9	25	3790	3790	.23
JUN									
01-30	276	0	780	1000	--	25	--	3010	--
23...	388	0	1400	2200	1.0	33	5440	5860	.23
JUL									
01-31	260	0	730	870	.8	24	--	2670	--
26...	316	0	880	1000	.8	23	3190	3130	.00
AUG									
01-31	248	0	1200	1600	.8	28	--	4540	--
24...	260	0	600	780	.8	17	2490	2390	.01
SEP									
01-30	276	0	640	700	--	23	--	2230	--
27...	364	0	1000	1200	.8	29	3480	3750	.22

RIO GRANDE BASIN

08370500 Rio Grande at Fort Quitman, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOTAL NITRITE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	SUS- PENDE SEDIM- ENT (MG/L)	SUS- PENDE SEDIM- ENT DIS- CHARGE (T/DAY)	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	
OCT										
01-31	--	1.7	--	--	--	--	--	--	--	
27...	.13	--	.34	.96	.40	7.0	52	11	98	
NOV										
01-30	--	--	--	--	--	--	--	--	--	
18...	.08	--	3.4	1.0	1.9	--	74	32	--	
DEC										
01-31	--	5.6	--	--	--	--	--	--	--	
16...	.06	--	2.0	3.0	2.0	--	135	36	15	
JAN										
01-31	--	4.2	--	--	--	--	--	--	--	
27...	.14	--	1.1	2.1	.78	--	28	3.4	67	
FEB										
01-29	--	1.8	--	--	--	--	--	--	--	
23...	.01	--	.02	1.4	.12	11	70	5.7	7	
MAR										
01-31	--	1.3	--	--	--	--	--	--	--	
22...	.00	--	.08	.86	.09	--	45	3.0	13	
APR										
01-30	--	--	--	--	--	--	--	--	--	
27...	.00	--	.07	.93	.11	--	30	3.4	53	
MAY										
01-31	--	1.5	--	--	--	--	--	--	--	
24...	.05	--	.16	1.4	.39	--	149	76	83	
JUN										
01-30	--	1.6	--	--	--	--	--	--	--	
23...	.09	--	.26	1.3	.26	4.6	179	27	95	
JUL										
01-31	--	1.4	--	--	--	--	--	--	--	
26...	.01	--	.02	2.6	.57	--	554	449	72	
AUG										
01-31	--	.90	--	--	--	--	--	--	--	
24...	.00	--	.04	2.8	.54	6.4	619	58	80	
SEP										
01-30	--	2.0	--	--	--	--	--	--	--	
27...	.01	--	.03	1.3	.40	--	171	35	86	
DATE	TIME	DIS- SOLVED ALUM- INUM (AL) (UG/L)	TOTAL ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)
OCT										
01-31	--	--	--	--	560	--	--	--	--	--
27...	0800	0	7	7	--	0	0	<10	0	0
NOV										
01-30	--	--	--	--	520	--	--	--	--	--
DEC										
01-31	--	--	--	--	450	--	--	--	--	--
JAN										
01-31	--	--	--	--	450	--	--	--	--	--
FEB										
01-29	--	--	--	--	760	--	--	--	--	--
23...	0930	20	5	5	850	0	0	<10	0	0
MAR										
01-31	--	--	--	--	610	--	--	--	--	--
APR										
01-30	--	--	--	--	660	--	--	--	--	--
MAY										
01-31	--	--	--	--	380	--	--	--	--	--
JUN										
01-30	--	--	--	--	550	--	--	--	--	--
23...	0730	30	11	7	840	0	0	<30	0	0
JUL										
01-31	--	--	--	--	540	--	--	--	--	--
AUG										
01-31	--	--	--	--	740	--	--	--	--	--
24...	0830	10	10	8	--	0	0	20	0	3
SEP										
01-30	--	--	--	--	420	--	--	--	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

[illegible]

RIO GRANDE BASIN

08370500 Rio Grande at Fort Quitman, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	ALDRIN		CHLOR-DANE		DDD		DDE		DDT	
		TOTAL ALDRIN (UG/L)	BOTTOM MA-TERIAL (UG/KG)	TOTAL CHLOR-DANE (UG/L)	BOTTOM MA-TERIAL (UG/KG)	TOTAL DDD (UG/L)	BOTTOM MA-TERIAL (UG/KG)	TOTAL DDE (UG/L)	BOTTOM MA-TERIAL (UG/KG)	TOTAL DDT (UG/L)	BOTTOM MA-TERIAL (UG/KG)
OCT 27...	0800	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
JAN 27...	1030	ND	--	ND	--	ND	--	ND	--	ND	--
APR 27...	0830	ND	ND	ND	ND	ND	ND	ND	5.9	ND	ND
JUL 26...	0830	ND	--	ND	--	ND	--	ND	--	ND	--

DATE		DI-AZINON		DI-ELDRIN		ENDRIN		ETHION		HEPTA-CHLOR	
		TOTAL DI-AZINON (UG/L)	BOTTOM MA-TERIAL (UG/KG)	TOTAL DI-ELDRIN (UG/L)	BOTTOM MA-TERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	BOTTOM MA-TERIAL (UG/KG)	TOTAL ETHION (UG/L)	BOTTOM MA-TERIAL (UG/KG)	TOTAL HEPTA-CHLOR (UG/L)	BOTTOM MA-TERIAL (UG/KG)
OCT 27...	.04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
JAN 27...	ND	--	ND	--	ND	--	ND	--	ND	--	ND
APR 27...	ND	ND	ND	1.0	ND	ND	ND	ND	ND	ND	ND
JUL 26...	ND	--	ND	--	ND	--	ND	--	ND	--	ND

DATE		HEPTA-CHLOR EPOXIDE		LINDANE		MALA-THION		METHOXY-CHLOR		METHYL PARA-THION	
		TOTAL HEPTA-CHLOR EPOXIDE (UG/KG)	BOTTOM MA-TERIAL (UG/L)	TOTAL LINDANE (UG/L)	BOTTOM MA-TERIAL (UG/KG)	TOTAL MALA-THION (UG/L)	BOTTOM MA-TERIAL (UG/KG)	TOTAL METHOXY-CHLOR (UG/L)	BOTTOM MA-TERIAL (UG/KG)	TOTAL METHYL PARA-THION (UG/L)	BOTTOM MA-TERIAL (UG/KG)
OCT 27...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
JAN 27...	--	ND	--	ND	--	ND	--	ND	--	ND	--
APR 27...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
JUL 26...	--	ND	--	ND	--	ND	--	ND	--	ND	--

DATE		PARA-THION		TOX-APHENE		TRI-THION		TOTAL ATRA-ZINE		TOTAL 2,4-D		TOTAL 2,4,5-T		TOTAL SILVEX	
		TOTAL PARA-THION (UG/L)	BOTTOM MA-TERIAL (UG/KG)	TOTAL TOX-APHENE (UG/L)	BOTTOM MA-TERIAL (UG/KG)	TOTAL TRI-THION (UG/L)	BOTTOM MA-TERIAL (UG/KG)	TOTAL ATRA-ZINE (UG/L)	BOTTOM MA-TERIAL (UG/L)	TOTAL 2,4-D (UG/L)	BOTTOM MA-TERIAL (UG/L)	TOTAL 2,4,5-T (UG/L)	BOTTOM MA-TERIAL (UG/L)	TOTAL SILVEX (UG/L)	BOTTOM MA-TERIAL (UG/L)
OCT 27...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
JAN 27...	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND
APR 27...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
JUL 26...	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PERIPHYTON

Date	Length of exposure (days)	Biomass (g/m ²)		Chlorophyll a (mg/m ²)	Chlorophyll b (mg/m ²)	Biomass pigment ratio	Sampling method
		Dry weight	Ash weight				
NOV. 18	22	0.5	0.1	0.1	0.0	3300	Polyethylene strip
DEC. 16	28	9.5	6.2	5.0	.7	660	Polyethylene strip
FEB. 23	27	160	150	66	.7	170	Polyethylene strip
AUG. 24	29	28.4	18.4	3.58	.028	2800	Polyethylene strip

08370500 Rio Grande at Fort Quitman, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

OCT. 27, 1975 0800 HOURS

PHYTOPLANKTON 17,000 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..OCCYSTACEAE		
....ANKISTRODESMUS	200	1
....OOCYSTIS	790	5
CHRYSTOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCONODISCACEAE		
....CYCLOTELLA	3,100	19
....MELOSIRA	2,600	15
..PENNALES		
..NAVICULACEAE		
....AMPHIPRORA		0
....NAVICULA	200	1
....PINNULARIA	200	1
....NITZSCHIA		
....NITZSCHIA	9,800	58

NOV. 18, 1975 0830 HOURS

PHYTOPLANKTON 8,700 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..OCCYSTACEAE		
....ANKISTRODESMUS	210	2
CHRYSTOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCONODISCACEAE		
....CYCLOTELLA	410	5
..PENNALES		
..GOMPHONEMACEAE		
....GOMPHONEMA	210	2
....NAVICULACEAE		
....AMPHIPRORA	410	5
....NAVICULA	1,400	17
....NITZSCHIA		
....NITZSCHIA	5,800	67
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
..EUGLENALES		
..EUGLENACEAE		
....EUGLENA	210	2

DEC. 16, 1975 1100 HOURS

PHYTOPLANKTON 9,300 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..VOLVOCALES		
..CHLAMYDOMONADACEAE		
....CHLAMYDOMONAS	2,000	21
CHRYSTOPHYTA		
..BACILLARIOPHYCEAE		
..PENNALES		
..NAVICULACEAE		
....NAVICULA	660	7
....NITZSCHIA		
....NITZSCHIA	2,700	29
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
..EUGLENALES		
..EUGLENACEAE		
....EUGLENA	4,000	43

JAN. 27, 1976 1030 HOURS

PHYTOPLANKTON 11,000 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..OCCYSTACEAE		
....ANKISTRODESMUS	1,100	10
....SCENEDESMACEAE		
....SCENEDESMUS		0
..VOLVOCALES		
..CHLAMYDOMONADACEAE		
....CHLAMYDOMONAS	230	2
CHRYSTOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCONODISCACEAE		
....CYCLOTELLA	230	2
..PENNALES		
..GOMPHONEMACEAE		
....GOMPHONEMA		0
....NAVICULACEAE		
....AMPHIPRORA	230	2
....CALONEIS		0
....NAVICULA	1,400	12
....NITZSCHIA		
....NITZSCHIA	2,900	26
....SURIPELLACEAE		
....SURIPELLA	230	2
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
..EUGLENALES		
..EUGLENACEAE		
....EUGLENA	5,000	44

FEB. 23, 1976 0930 HOURS

PHYTOPLANKTON 16,000 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..OCCYSTACEAE		
....ANKISTRODESMUS	660	4
....DICTYOSPHAERIUM	660	4
....OOCYSTIS	1,300	8
..VOLVOCALES		
..CHLAMYDOMONADACEAE		
....CHLAMYDOMONAS	160	1
CHRYSTOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCONODISCACEAE		
....CYCLOTELLA	9,200	57
..PENNALES		
..CYMBELLACEAE		
....AMPHORA	160	1
..GOMPHONEMACEAE		
....GOMPHONEMA	330	2
....NAVICULACEAE		
....CALONEIS		0
....NAVICULA	330	2
....TROPIDONEIS		0
....NITZSCHIA		
....NITZSCHIA	2,100	13
EUGLENOPHYTA		
..CRYPTOPHYCEAE		
..CRYPTOMONIDALES		
..CRYPTOMONODACEAE		
....CRYPTOMONAS		0
..EUGLENOPHYCEAE		
..EUGLENALES		
..EUGLENACEAE		
....EUGLENA	1,100	7
....TRACHELOMONAS		0
PYRRHOPHYTA		
..DINOPHYCEAE		
..PERIDINIALES		
..GLENODINIACEAE		
....GLENODINIUM	160	1

08370500 Rio Grande at Fort Quitman, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

MAR. 22, 1976 0930 HOURS

PHYTOPLANKTON 23,000 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..OCCYSTACEAE		
....ANKISTRODESMUS	1,100	5
..VOLVOCALES		
..CHLAMYDOMONADACEAE		
....CHLAMYDOMONAS	1,000	5
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCAEAE		
....CYCLOTELLA	9,300	41
..PENNALES		
..NAVICULACEAE		
....AMPHIPRORA		0
....CALONEIS	110	1
....GYROSIGMA		0
....NAVICULA	450	2
....PINNULARIA	110	1
..NITZSCHIAEAE		
....NITZSCHIA	3,100	14
..ACHNANTHACEAE		
....RHOICOSPHEA		0
CYANOPHYTA		
..MYXOPHYCEAE		
..OSCILLATORIALES		
..NOSTOCACEAE		
....ANABAENOPSIS	800	4
..OSCILLATORIAEAE		
....OSCILLATORIA	2,400	11
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
..EUGLENALS		
..EUGLENACEAE		
....EUGLENA	800	4
....PHACUS	110	1
....TRACHELOMONAS	3,100	14
PYRRHOPHYTA		
..DINOPHYCEAE		
..PERIDINIALES		
..GLENODINIACEAE		
....GLENODINIUM	110	1

APR. 27, 1976 0830 HOURS

PHYTOPLANKTON 130,000 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..OCCYSTACEAE		
....ANKISTRODESMUS		0
....OCCYSTIS	1,400	1
..SCENEDESMACEAE		
....ACTINASTRUM	1,400	1
....SCENEDESMUS	2,100	2
..VOLVOCALES		
..CHLAMYDOMONADACEAE		
....CHLAMYDOMONAS	690	1
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCAEAE		
....CYCLOTELLA	79,000	59
..PENNALES		
..NAVICULACEAE		
....AMPHIPRORA		0
....CALONEIS	690	1
....NAVICULA		0
..NITZSCHIAEAE		
....NITZSCHIA	32,000	24
CYANOPHYTA		
..MYXOPHYCEAE		
..OSCILLATORIALES		
..NOSTOCACEAE		
....ANABAENOPSIS	2,400	2
..OSCILLATORIAEAE		
....OSCILLATORIA	11,000	8
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
..EUGLENALS		
..EUGLENACEAE		
....EUGLENA		0

MAY 24, 1976 0745 HOURS

PHYTOPLANKTON 36,000 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..SCENEDESMACEAE		
....SCENEDESMUS	4,000	11
..ZYGNEMALES		
..DESMIDIACEAE		
....CLOSTERIUM	1,100	3
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCAEAE		
....CYCLOTELLA	1,400	4
....MELOSIRA	3,700	10
....STEPHANODISCUS	1,700	5
..PENNALES		
..NAVICULACEAE		
....CALONEIS	280	1
....GYROSIGMA	570	2
....NAVICULA	1,400	4
....PINNULARIA	570	2
..NITZSCHIAEAE		
....NITZSCHIA	6,500	18
CYANOPHYTA		
..MYXOPHYCEAE		
..OSCILLATORIALES		
..NOSTOCACEAE		
....ANABAENOPSIS	15,000	41

JULY 26, 1976 0830

PHYTOPLANKTON 350,000 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..OCCYSTACEAE		
....ANKISTRODESMUS	9,100	3
..SCENEDESMACEAE		
....SCENEDESMUS	4,500	1
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCAEAE		
....CYCLOTELLA	54,000	15
....MELOSIRA	15,000	4
..PENNALES		
..NAVICULACEAE		
....NAVICULA	3,400	1
..NITZSCHIAEAE		
....NITZSCHIA	22,000	6
CYANOPHYTA		
..MYXOPHYCEAE		
..CHLOROCOCCALES		
..CHLOROCOCCACEAE		
....ANACYSTIS	11,000	3
..OSCILLATORIALES		
..OSCILLATORIAEAE		
....OSCILLATORIA	45,000	13
..RIVULARIACEAE		
....RAPHIIDIOPSIS	190,000	53

08370500 Rio Grande at Fort Quitman, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

AUG. 24, 1976 0830 HOURS

PHYTOPLANKTON 290,000 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..OCCYSTACEAE		
..DICTYOSPHAERIUM	4,200	1
..KIRCHNERIELLA	1,800	1
..SELENASTRUM		0
..SCENEDESMACEAE		
..SCENEDESMUS	3,600	1
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCEAE		
..CYCLOTELLA	94,000	33
..MELOSIRA	7,800	3
..PENNALES		
..FRAGILARIACEAE		
..SYNEDRA		0
..NAVICULACEAE		
..NAVICULA	2,400	1
..NITZSCHIA		
..NITZSCHIA	68,000	24
CYANOPHYTA		
..MYXOPHYCEAE		
..CHROOCOCCALES		
..CHROOCOCCACEAE		
..AGMENELLUM	9,600	3
..OSCILLATORIALES		
..NOSTOCACEAE		
..CYLINDROSPERMUM	27,000	9
..OSCILLATORIA		
..LYNGBYA	15,000	5
..OSCILLATORIA	54,000	19

SEP. 27, 1976 0930 HOURS

PHYTOPLANKTON 41,000 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..OCCYSTACEAE		
..KIRCHNERIELLA	1,300	3
..SCENEDESMACEAE		
..ACTINASTRUM		0
..VOLVOCALES		
..CHLAMYDOMONADACEAE		
..CARTERIA	2,700	7
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCEAE		
..CYCLOTELLA	20,000	49
..MELOSIRA	5,400	13
..PENNALES		
..FRAGILARIACEAE		
..SYNEDRA	450	1
..NAVICULACEAE		
..AMPHIPHORA		0
..NAVICULA	900	2
..NITZSCHIA		
..NITZSCHIA	8,100	20
CYANOPHYTA		
..MYXOPHYCEAE		
..CHROOCOCCALES		
..CHROOCOCCACEAE		
..ANACYSTIS	1,800	4
..OSCILLATORIALES		
..OSCILLATORIA	450	1
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
..EUGLENALES		
..EUGLENACEAE		
..EUGLENA		0

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

MONTH	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA+MG) (MG/L)
OCT. 1975.....	4022	4780	3110	33800	1030	11200	810	8800	860
NOV. 1975.....	4110	4230	2750	30500	870	9600	720	7960	750
DEC. 1975.....	6313	3950	2570	43700	790	13400	670	11400	770
JAN. 1976.....	1973	4660	3030	16100	990	5290	790	4210	830
FEB. 1976.....	1451	5230	3400	13300	1160	4540	880	3460	950
MAR. 1976.....	1355	5690	3700	13500	1330	4860	960	3510	1040
APR. 1976.....	1772	6350	4130	19700	1490	7110	1070	5120	1170
MAY 1976.....	9812	3290	2140	56700	640	17100	560	14900	640
JUNE 1976.....	3759	4800	3120	31700	1040	10600	810	8230	860
JULY 1976.....	6324	4230	2750	46900	880	15100	720	12200	750
AUG. 1976.....	1379	7090	4610	17200	1700	6330	1190	4460	1320
SEPT 1976.....	5244	3370	2190	31000	640	9070	570	8130	660
TOTAL	47514	**	**	354000	**	114000	**	92400	**
WTD.AVG.	130.18	4250	2800	**	890	**	720	**	750

RIO GRANDE BASIN

08370500 Rio Grande at Fort Quitman, Tex.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5850	4490	3850	3980	7150	7490	3420	5990	3920	8060	6670	8970
2	5940	4240	3830	4030	6480	7630	4620	6360	4320	8390	6040	7510
3	4600	4320	3400	4070	6710	7960	5370	6500	5710	8060	5300	7430
4	4250	4400	3810	3930	5500	8170	6440	4550	5270	7410	5640	7250
5	4040	4210	3740	3960	2950	4440	5900	1830	4500	7120	5750	4390
6	4520	4050	3910	4110	3240	8820	5100	2010	3010	6840	7290	3180
7	4540	4240	4060	4200	3550	9200	5700	2190	2520	6510	7790	2380
8	4350	4490	4250	4290	4260	9120	6890	2060	2880	8660	6620	2430
9	4500	4600	4440	4100	4490	9040	6820	2130	3120	8320	6690	2510
10	4490	4510	4580	4700	4690	9120	7600	2280	4420	7960	7550	2950
11	4710	5350	4160	4810	4320	9290	7210	2750	4440	6700	8460	3050
12	4760	3930	4300	5260	4600	9450	7030	3660	5030	6580	8950	3230
13	4650	4170	4070	5540	5240	9360	7620	4440	5650	6320	9190	3600
14	4710	4900	4230	5440	5400	7790	7790	4650	6120	5930	9110	4390
15	4790	4810	4340	5650	5200	8580	7560	4750	5890	1500	8950	2930
16	4640	4600	4260	5500	5100	8840	6590	4720	6780	3600	8720	3050
17	5450	4220	4240	5650	5670	8770	6540	4700	6520	3290	8870	3560
18	5450	4100	4410	5810	6210	7490	7420	4760	6230	3040	8430	3350
19	5780	4120	4300	5650	7400	8440	5470	4810	6750	2800	8360	4070
20	5750	4250	4870	5500	7340	8770	4470	2070	7210	3640	8750	4640
21	5690	4400	4510	5770	7640	8510	6230	2970	8350	4420	7960	4850
22	5540	4250	4210	5910	7620	8590	7790	3980	8510	3720	8830	5330
23	5850	4170	3700	5320	7940	8510	8360	4560	8670	1640	4500	5810
24	5560	3970	3650	5440	4250	8240	8500	4050	8280	3780	4460	6560
25	5310	3900	3600	5000	8120	7440	7610	3540	8420	4200	5750	6340
26	5100	3830	3520	3990	7700	8080	8050	4270	8280	4750	7230	6480
27	4500	4050	3560	4090	7680	7690	8570	6010	7210	5430	7970	6170
28	4170	4020	3680	4780	8250	5890	8100	6460	7430	4700	8500	5860
29	4250	4230	3760	5540	8770	1980	8780	5250	8280	4550	8430	6250
30	4240	4100	3450	6250	---	2320	5040	3580	7430	5310	8560	6300
31	4260	---	3820	7080	---	2500	---	3720	---	6250	8710	---
MONTH	4730	4300	4040	5010	6130	7800	6750	4080	6040	5470	7550	4830

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.0	13.0	8.5	8.5	7.0	19.0	16.0	20.0	26.5	28.5	26.0	24.0
2	22.0	17.0	10.0	3.5	14.0	17.0	14.0	19.0	28.0	23.0	26.0	29.0
3	19.5	18.0	9.5	3.5	14.0	16.5	18.0	21.5	25.0	25.5	28.5	29.0
4	15.5	17.0	10.5	8.0	13.0	13.0	20.0	21.0	28.0	25.0	33.0	21.5
5	22.0	17.0	10.0	8.0	13.0	14.0	23.0	18.0	21.5	24.5	34.0	21.5
6	21.5	16.0	5.5	8.5	14.5	15.0	21.0	19.0	26.5	31.0	31.5	23.5
7	22.0	16.0	13.0	6.5	9.5	14.5	22.0	18.5	26.0	30.5	31.0	26.0
8	20.0	16.0	10.5	8.0	16.5	15.0	19.5	22.0	27.0	31.0	33.0	25.0
9	21.5	16.0	11.0	9.0	15.5	18.0	21.5	24.0	28.0	34.0	22.0	23.5
10	21.0	16.0	10.5	8.0	15.0	10.5	23.0	24.0	25.5	29.5	35.0	20.5
11	22.0	15.5	10.0	8.5	18.0	11.0	23.0	23.0	26.0	28.0	26.0	23.0
12	22.0	13.5	10.5	8.0	18.5	10.5	24.0	25.0	26.0	27.0	33.0	26.0
13	18.0	13.0	9.0	11.5	18.0	14.0	22.0	24.5	26.0	29.0	31.0	26.5
14	20.0	10.0	10.5	9.5	11.0	17.0	19.0	24.5	27.0	29.0	29.5	24.0
15	18.0	10.5	8.5	11.0	18.0	15.0	23.0	21.0	26.5	24.5	25.5	24.0
16	18.5	10.0	9.0	12.0	18.5	15.5	15.0	23.5	30.0	26.5	30.0	25.0
17	19.0	11.5	9.0	6.0	14.0	18.5	15.0	24.0	25.0	28.0	28.0	23.0
18	18.0	6.5	8.0	12.0	17.0	18.0	16.0	22.0	28.0	28.0	28.5	24.5
19	17.0	14.5	10.0	11.5	18.0	17.0	19.5	24.5	29.0	28.0	32.0	27.0
20	19.5	8.0	9.0	7.0	13.5	16.5	21.5	24.0	28.5	26.0	26.5	24.0
21	18.0	12.0	8.5	11.5	15.0	21.0	22.0	26.0	31.0	27.0	27.0	24.5
22	19.0	10.5	12.0	13.0	13.0	18.0	24.5	26.5	32.0	25.0	22.0	23.5
23	19.5	11.0	10.5	14.0	17.0	19.0	23.0	26.0	29.5	21.0	25.5	24.0
24	19.0	5.0	9.5	15.0	16.0	20.0	26.5	24.0	25.0	24.0	27.0	25.0
25	18.5	10.5	9.5	10.5	16.5	20.0	26.0	23.5	26.0	28.0	29.0	23.5
26	18.5	8.0	9.5	11.0	18.5	15.5	23.0	26.0	30.5	25.0	30.5	23.0
27	12.0	9.5	9.0	10.5	18.5	13.0	23.5	26.5	23.5	25.0	28.0	22.0
28	18.0	9.0	8.0	12.0	12.0	13.0	23.0	24.0	33.0	25.0	25.5	23.0
29	18.0	10.5	5.5	12.0	18.5	12.0	22.0	26.5	29.0	25.5	24.5	23.5
30	19.0	10.0	8.0	15.5	---	12.0	24.0	26.0	28.5	31.0	27.0	24.0
31	18.0	---	7.0	16.0	---	11.0	---	26.5	---	27.0	28.5	---
MONTH	19.0	12.5	9.5	10.0	15.0	15.5	21.0	23.5	27.5	27.0	28.5	24.0

RIO GRANDE BASIN

455

08371500 Rio Grande above Rio Concho near Presidio, Tex.

LOCATION.--Lat 29°37'15", long 104°28'50", at gaging station 7.8 miles (12.6 km) upstream from the junction of Rio Conchos, about 10 miles (16 km) northwest of Presidio, Tex., and Ojinaga, Chihuahua, Mex., and 285.7 miles (459.7 km) downstream from the American Dam at El Paso.

DRAINAGE AREA.--34,988 mi² (90,619 km²), United States and Mexico; from International Boundary and Water Commission Water Bulletin No. 31.

PERIOD OF RECORD.--Chemical analyses: February 1935 to current year. Prior to 1964, published as "Rio Grande at Upper Presidio".

REMARKS.--Records of specific conductance and discharge for water year 1976 are given in International Boundary and Water Commission Water Bulletins Nos. 45 and 46.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO
OCT									
01-31	540	4160	8.0	770	600	220	54	620	9.7
NOV									
01-30	39	4770	8.2	680	680	240	68	740	11
DEC									
01-31	54	4420	7.8	800	560	220	62	680	10
JAN									
01-31	59	4560	8.2	770	540	210	54	640	11
FEB									
01-29	44	5330	7.6	910	690	250	70	850	12
MAR									
01-31	13	4730	8.0	880	680	240	69	740	11
APR									
01-30	6.1	3490	8.0	640	470	180	46	510	8.8
MAY									
01-31	25	3120	7.9	560	390	160	34	450	8.3
JUN									
01-30	28	2330	7.9	410	250	120	25	330	7.1
JUL									
01-31	110	1360	7.9	300	170	100	12	150	3.8
AUG									
01-31	94	1750	8.1	320	180	100	14	230	5.6
SEP									
01-30	134	2050	8.2	390	250	120	21	280	6.2

DATE	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED (SUM OF CONSTI- TUENTS) (MG/L)	DIS- SOLVED NITRATE PLUS NITRATE (N) (MG/L)	DIS- SOLVED AMMONI- UM (H) (MG/L)
OCT									
01-31	--	212	0	--	870	--	--	--	--
NOV									
01-30	--	240	0	--	980	--	--	--	--
DEC									
01-31	--	296	0	--	910	--	--	--	--
JAN									
01-31	--	276	0	--	980	--	--	--	--
FEB									
01-29	--	272	0	--	1100	--	--	--	--
MAR									
01-31	18	246	0	920	1000	18	3130	21	640
APR									
01-30	--	204	0	--	650	--	--	--	--
MAY									
01-31	--	212	0	--	550	--	--	--	--
JUN									
01-30	--	192	0	--	390	--	--	--	--
JUL									
01-31	--	160	0	--	150	--	--	--	--
AUG									
01-31	--	180	0	--	260	--	--	--	--
SEP									
01-30	--	170	0	390	340	15	1250	22	320

RIO GRANDE BASIN

08373200 Cibolo Creek near Presidio, Tex.

LOCATION.--Lat 29°34'50", long 104°21'55", Presidio County, on left bank at downstream side of bridge on U.S. Highway 67, 1.5 miles (2.4 km) north of Presidio, and 2.5 miles (4.0 km) upstream from mouth.

DRAINAGE AREA.--276 mi² (715 km²).

PERIOD OF RECORD.--August 1971 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,645.87 ft (806.461 m) above mean sea level.

AVERAGE DISCHARGE.--5 years, 9.76 ft³/s (0.276 m³/s), 7,070 acre-ft/yr (8.72 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 73 ft³/s (2.07 m³/s) Sept. 18 (gage height, 4.58 ft or 1.396 m); no flow most of time.
Period of record: Maximum discharge, 18,500 ft³/s (524 m³/s) Sept. 21, 1974 (gage height, 6.40 ft or 1.951 m); no flow most of time each year.
Maximum stage since about 1900, 12 ft (3.7 m) in 1944, from information by local resident and Texas Highway Department.

REMARKS.--Records fair.

REVISIONS (WATER YEARS).--WRD TX-75-1: 1972-73.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1												3.3
2												0
3												0
4												0
5												1.8
6												.42
7												0
8												0
9												0
10												0
11												0
12												0
13												0
14												0
15												0
16												1.9
17												0
18												3.1
19												0
20												0
21												0
22												0
23												0
24												0
25												0
26												0
27												0
28												0
29												0
30												0
31		---			---		---		---			---
TOTAL	0	0	0	0	0	0	0	0	0	0	0	10.52
MEAN	0	0	0	0	0	0	0	0	0	0	0	.35
MAX	0	0	0	0	0	0	0	0	0	0	0	3.3
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	0	0	0	0	0	21
CAL YR 1975	TOTAL 66.75	MEAN .18	MAX	27	MIN 0	AC-FT 132						
WTR YR 1976	TOTAL 10.52	MEAN .029	MAX	3.3	MIN 0	AC-FT 21						

PEAK DISCHARGE (BASE, 1,000 FT³/S).--No peak above base.

RIO GRANDE BASIN

457

08375000 Rio Grande at Johnson Ranch, Tex.

LOCATION.--Lat 29°02'05", long 103°23'30", Brewster County, at gaging station about 2 miles (3 km) upstream from Johnson Ranch, 14 miles (23 km) downstream from Castolon, and 392.9 miles (632.2 km) downstream from the American Dam at El Paso.

DRAINAGE AREA.--70,715 mi² (183,152 km²), United States and Mexico; from International Boundary and Water Commission Water Bulletin No. 31.

PERIOD OF RECORD.--Chemical analyses: June 1947 to current year.

REMARKS.--Records of specific conductance and discharge for water year 1976 are given in International Boundary and Water Commission Water Bulletins Nos. 45 and 46.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICHO- MHOS)	PH (UNITS)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO
OCT									
1-31	461	1730	7.7	390	230	120	22	220	4.8
NOV									
1-30	433	1670	8.0	390	230	120	21	220	4.9
DEC									
1-31	451	1810	7.9	390	210	120	23	240	5.3
JAN									
1-31	423	1800	7.9	390	220	120	23	230	5.0
FEB									
1-29	236	2130	7.6	460	290	140	27	280	5.7
MAR									
1-31	164	2070	7.9	460	300	140	26	270	5.5
APR									
1-30	97	1990	7.9	450	310	140	25	250	5.1
MAY									
1-31	374	1470	7.8	370	230	120	17	170	3.8
JUN									
1-30	1140	1250	8.0	290	140	94	14	160	4.1
JUL									
1-31	3160	1050	7.8	300	130	100	11	100	2.5
AUG									
1-31	2420	1100	8.2	270	110	87	12	130	3.5
SEP									
1-30	1810	1110	7.7	290	130	96	11	120	3.1
DATE	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SULFUR (SUM OF CONSTITU- ENTS) (MG/L)	DIS- SOLVED NITRATE PLUS NITRATE (N) (MG/L)	DIS- SOLVED AMMONI- UM (H) (MG/L)
OCT									
1-31	--	190	0	--	180	--	--	--	--
NOV									
1-30	--	196	0	--	160	--	--	--	--
DEC									
1-31	--	220	0	--	210	--	--	--	--
JAN									
1-31	--	218	0	--	190	--	--	--	--
FEB									
1-29	--	204	0	--	270	--	--	--	--
MAR									
1-31	7.5	196	0	580	220	27	1370	225	450
APR									
1-30	--	178	0	--	190	--	--	--	--
MAY									
1-31	--	172	0	--	110	--	--	--	--
JUN									
1-30	--	192	0	--	68	--	--	--	--
JUL									
1-31	--	190	0	--	38	--	--	--	--
AUG									
1-31	--	186	0	--	55	--	--	--	--
SEP									
1-30	--	192	0	300	66	25	717	282	240

RIO GRANDE BASIN

08376300 Sanderson Canyon at Sanderson, Tex.

LOCATION.--Lat 30°07'42", long 102°23'04", Terrell County, on left bank at upstream side of bridge on U.S. Highway 90, 1.0 mile (1.6 km) south of Sanderson, 2.9 miles (4.7 km) downstream from Three Mile Draw, and 30 miles (48 km) upstream from mouth.

DRAINAGE AREA.--195 mi² (505 km²).

PERIOD OF RECORD.--February 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,706.35 ft (824.895 m) above mean sea level.

AVERAGE DISCHARGE.--8 years, 11.6 ft³/s (0.329 m³/s), 0.81 in/yr (21 mm/yr), 8,400 acre-ft/yr (10.4 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 6,360 ft³/s (180 m³/s) July 17 (gage height, 5.42 ft or 1.652 m); no flow most of time.
 Period of record: Maximum discharge, 32,600 ft³/s (923 m³/s) Sept. 18, 1969 (gage height, 9.18 ft or 2.798 m); maximum gage height, 9.44 ft (2.877 m) Apr. 30, 1974; no flow most of time each year.
 Maximum flood since at least 1935, 14.2 ft (4.33 m) June 11, 1965; discharge about 100,000 ft³/s (2,830 m³/s) by combining two slope-area measurements within 4 miles (6 km) upstream from gage. The next highest flood occurred in 1935, about 20,000 ft³/s (566 m³/s) estimated channel capacity by Corps of Engineers.

REMARKS.--Records fair. No known regulation or diversion above the station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
 MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								0		0		
2								0		0		
3								0		0		
4								0		0		
5								0		0		
6								0		0		
7								476		0		
8								0		0		
9								0		0		
10								0		0		
11								0		0		
12								0		0		
13								0		0		
14								0		0		
15								0		0		
16								0		0		
17								0		680		
18								0		4.8		
19								0		0		
20								54		0		
21								4.3		0		
22								0		0		
23								0		0		
24								0		0		
25								0		0		
26								0		0		
27								0		0		
28								0		0		
29								0		0		
30					---		---	0		0		
31		---			---		---	0	---	0		---
TOTAL	0	0	0	0	0	0	0	539.3	0	684.8	0	0
MEAN	0	0	0	0	0	0	0	17.4	0	22.1	0	0
MAX	0	0	0	0	0	0	0	476	0	680	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	0	1070	0	1360	0	0

CAL YR 1975 TOTAL 448.00 MEAN 1.23 MAX 448 MIN 0 AC-FT 889
 WTR YP 1976 TOTAL 1224.10 MEAN 3.34 MAX 680 MIN 0 AC-FT 2430

PEAK DISCHARGE (BASE, 1,500 FT³/S).--May 7 (0830) 4,570 ft³/s (4.80 ft); July 17 (1800) 6,360 ft³/s (5.42 ft).

NOTE.--No gage-height record June 7 to July 19.

RIO GRANDE BASIN

459

08377200 Rio Grande at Foster Ranch near Langtry, Tex.
(National stream-quality accounting network)

LOCATION.--Lat 29°46'50", long 101°45'20", Val Verde County, at gaging station 0.1 mile (0.2 km) downstream from Terrell-Val Verde County line, 16.9 miles (27.2 km) from Langtry, and 597.2 miles (960.9 km) downstream from the American Dam at El Paso.

DRAINAGE AREA.--84,120 mi² (217,870 km²), United States and Mexico.

PERIOD OF RECORD.--Chemical analyses: April 1944 to current year. Chemical and biochemical analyses: October 1974 to current year.
Water temperatures: October 1974 to current year.

EXTREMES.--Current year: Maximum daily specific conductance, 1,600 micromhos Dec. 24; minimum daily, 395 micromhos May 3. Maximum water temperatures, 31.0°C May 31, June 1; minimum, 9.0°C Jan. 8.
Period of record: Maximum daily specific conductance (1974-76), 2,110 micromhos Dec. 4, 1974; minimum daily, 395 micromhos May 3, 1976. Maximum water temperatures, 31.0°C on several days during summer of 1975-76; minimum 9.0°C Jan. 12, 1975, Jan. 8, 1976.

REMARKS.--Records of specific conductance and discharge for water year 1976 are given in International Boundary and Water Commission Water Bulletins Nos. 45 and 46.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICHO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)	IMME- DIATE COLI- FORM (COL. PEW 100 ML)
OCT										
01-31	--	754	1210	7.8	--	--	--	--	--	--
29...	1100	675	1280	7.9	21.0	35	8.7	97	.1	52
NOV										
01-30	--	704	1220	7.8	--	--	--	--	--	--
20...	1000	715	1340	7.9	16.0	25	9.2	92	1.0	50
DEC										
01-31	--	700	1270	8.0	--	--	--	--	--	--
10...	1025	710	1340	7.9	14.0	20	9.6	92	1.1	84
JAN										
01-31	--	713	1340	7.9	--	--	--	--	--	--
14...	1045	710	1320	8.1	12.0	25	10.3	95	.5	160
FEB										
01-29	--	528	1300	7.9	--	--	--	--	--	--
03...	1045	625	1310	7.9	12.0	25	10.1	94	.5	340
MAR										
01-31	--	424	1240	7.9	--	--	--	--	--	--
10...	1030	440	1290	8.1	17.0	18	8.9	92	.6	170
APR										
01-30	--	406	1000	8.0	--	--	--	--	--	--
13...	1045	345	1030	8.1	22.0	25	8.2	93	.5	460
MAY										
01-31	--	836	902	7.9	--	--	--	--	--	--
05...	1035	320	700	7.6	19.5	95	7.8	84	1.9	3100
JUN										
01-30	--	1220	1110	7.8	--	--	--	--	--	--
15...	1030	2000	1120	7.8	28.0	400	7.8	100	1.6	1900
JUL										
01-31	--	3560	987	7.9	--	--	--	--	--	--
24...	1035	3200	1120	7.9	27.0	700	7.2	91	1.3	4400
AUG										
01-31	--	3130	1040	7.8	--	--	--	--	--	--
18...	1105	2600	1080	7.9	27.0	280	7.4	95	.6	1900
SEP										
01-30	--	2410	935	8.0	--	--	--	--	--	--
29...	1035	1800	1080	7.9	23.0	300	8.0	96	.8	9400

RIO GRANDE BASIN

08377200 Rio Grande at Foster Ranch near Langtry, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	FECAL COLIFORM (COL. PER 100 ML)	STREPTOCOCCI (COLONIES PER 100 ML)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISSOLVED POTASSIUM (K) (MG/L)
OCT									
01-31	--	--	290	150	85	20	150	3.8	6.0
29...	22	38	350	200	100	23	150	3.5	6.0
NOV									
01-30	--	--	310	160	88	22	150	3.7	6.5
20...	28	42	340	190	100	23	150	3.5	6.0
DEC									
01-31	--	--	300	150	85	22	160	4.0	5.8
10...	10	20	350	170	100	24	150	3.5	5.4
JAN									
01-31	--	--	300	160	85	22	160	4.0	6.0
14...	16	20	320	150	95	21	160	3.4	5.5
FEB									
01-29	--	--	290	150	77	23	150	3.9	6.0
03...	4	16	330	160	94	22	160	3.9	5.6
MAR									
01-31	--	--	310	160	83	24	140	3.5	5.4
10...	4	110	320	160	90	24	150	3.6	5.5
APR									
01-30	--	--	280	130	80	20	100	2.6	5.7
13...	110	200	290	130	80	22	110	2.8	5.0
MAY									
01-31	--	--	260	110	80	15	79	2.1	--
05...	370	840	220	74	64	15	56	1.6	4.4
JUN									
01-30	--	--	270	130	85	15	130	3.4	--
15...	360	1100	270	130	81	17	130	3.4	5.6
JUL									
01-31	--	--	270	130	92	10	100	2.6	--
28...	1200	3200	260	110	86	10	140	3.8	6.8
AUG									
01-31	--	--	--	--	85	--	120	--	--
18...	300	650	260	110	80	14	140	3.8	7.0
SEP									
01-30	--	--	240	100	80	10	90	2.7	--
29...	1400	1000	260	110	85	12	130	3.5	6.5

DATE	ARICARBONATE (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SI02) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NITRATE (N) (MG/L)
OCT									
01-31	172	0	320	110	--	26	--	802	--
29...	182	0	310	120	--	26	809	827	.65
NOV									
01-30	182	0	300	110	--	25	--	794	--
20...	192	0	310	120	1.5	25	855	830	.55
DEC									
01-31	188	0	320	120	--	25	--	834	--
10...	212	0	310	130	1.3	24	848	849	.32
JAN									
01-31	176	0	330	130	--	24	--	848	--
14...	212	0	310	120	1.5	24	856	842	.38
FEB									
01-29	162	0	340	130	--	23	--	834	--
03...	204	0	310	120	1.5	23	844	839	.19
MAR									
01-31	174	0	300	120	--	22	--	785	--
10...	144	0	300	130	1.3	21	838	817	.60
APR									
01-30	180	0	250	78	--	20	--	643	--
13...	200	0	250	71	1.4	21	658	659	.62
MAY									
01-31	180	0	220	53	--	19	--	561	--
05...	180	0	140	44	1.0	16	434	429	.77
JUN									
01-30	176	0	310	64	--	25	--	720	--
15...	176	0	320	65	1.7	26	804	735	.74
JUL									
01-31	176	0	280	37	2.2	22	--	637	--
28...	176	0	330	34	1.9	28	750	743	.57
AUG									
01-31	176	0	300	48	1.5	27	--	--	--
18...	180	0	310	56	1.8	31	722	730	.91
SEP									
01-30	172	0	250	46	--	22	--	594	--
29...	186	0	270	78	1.4	27	711	702	.56

RIO GRANDE BASIN

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08377200 Rio Grande at Foster Ranch near Langtry, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOTAL NITRITE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	SUS- PENDE SEDIM- ENT (MG/L)	SUS- PENDE SEDIM- ENT DIS- CHARGE (T/DAY)	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	
OCT										
01-31	--	--	--	--	--	--	--	--	--	
29...	.00	--	.00	.28	.04	2.2	66	120	94	
NOV										
01-30	--	.66	--	--	--	--	--	--	--	
20...	.60	--	.01	.23	.03	--	66	127	91	
DEC										
01-31	--	.75	--	--	--	--	--	--	--	
10...	.00	--	.06	.16	.03	--	65	125	91	
JAN										
01-31	--	.96	--	--	--	--	--	--	--	
14...	.00	--	.01	.18	.04	--	78	150	90	
FEB										
01-29	--	1.0	--	--	--	--	--	--	--	
03...	.00	--	.01	.24	.01	1.8	97	164	84	
MAR										
01-31	--	1.0	--	--	--	--	--	--	--	
10...	.00	--	.00	.11	.01	--	71	84	78	
APR										
01-30	--	--	--	--	--	--	--	--	--	
13...	.01	--	.00	.27	.01	--	76	71	85	
MAY										
01-31	--	1.3	--	--	--	--	--	--	--	
05...	.01	--	.02	.59	.13	--	114	98	99	
JUN										
01-30	--	1.0	--	--	--	--	--	--	--	
15...	.01	--	.08	1.2	.46	27	738	3990	100	
JUL										
01-31	--	1.5	--	--	--	--	--	--	--	
28...	.00	--	.01	1.5	1.2	--	2120	18300	94	
AUG										
01-31	--	1.1	--	--	--	--	--	--	--	
18...	.01	--	.04	.96	.53	14	1020	7160	92	
SEP										
01-30	--	1.3	--	--	--	--	--	--	--	
29...	.00	--	.00	.97	.49	--	766	3720	94	
DATE	TIME	DIS- SOLVED ALUM- INUM (AL) (UG/L)	TOTAL ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)
OCT										
01-31	--	--	--	--	300	--	--	--	--	--
29...	1100	9	8	7	280	0	0	<10	0	0
NOV										
01-30	--	--	--	--	280	--	--	--	--	--
DEC										
01-31	--	--	--	--	240	--	--	--	--	--
JAN										
01-31	--	--	--	--	240	--	--	--	--	--
FEB										
01-29	--	--	--	--	280	--	--	--	--	--
03...	1045	20	9	8	290	0	0	<10	0	0
MAR										
01-31	--	--	--	--	270	--	--	--	--	--
APR										
01-30	--	--	--	--	240	--	--	--	--	--
MAY										
01-31	--	--	--	--	200	--	--	--	--	--
JUN										
01-30	--	--	--	--	280	--	--	--	--	--
15...	1030	30	8	5	300	3	2	50	0	13
JUL										
01-31	--	--	--	--	190	--	--	--	--	--
AUG										
01-31	--	--	--	--	270	--	--	--	--	--
18...	1105	20	20	24	--	1	0	10	0	7
SEP										
01-30	--	--	--	--	220	--	--	--	--	--

08377200 Rio Grande at Foster Ranch near Langtry, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

[illegible]

08377200 Rio Grande at Foster Ranch near Langtry, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL CHLOR-DANE (UG/L)	CHLOR-DANE IN BOTTOM MATERIAL (UG/KG)	TOTAL DDD (UG/L)	DDD IN BOTTOM MATERIAL (UG/KG)	TOTAL DDE (UG/L)	DDE IN BOTTOM MATERIAL (UG/KG)	TOTAL DDT (UG/L)	DDT IN BOTTOM MATERIAL (UG/KG)
OCT 29...	1100	ND	--	ND	--	ND	--	ND	--	ND	--
FEB 03...	1045	ND	--	ND	--	ND	--	ND	--	ND	--
MAY 05...	1035	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 18...	1105	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	TOTAL DI-AZINON (UG/L)	DI-AZINON IN BOTTOM MATERIAL (UG/KG)	TOTAL DI-ELDRIN (UG/L)	DI-ELDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL ETHION (UG/L)	ETHION IN BOTTOM MATERIAL (UG/KG)	TOTAL HEPTA-CHLOR (UG/L)	HEPTA-CHLOR IN BOTTOM MATERIAL (UG/KG)	TOTAL HEPTA-CHLOR EPOXIDE (UG/L)
OCT 29...	ND	--	ND	--	ND	--	ND	--	ND	--	ND
FEB 03...	ND	--	ND	--	ND	--	ND	--	ND	--	ND
MAY 05...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 18...	ND	--	ND	--	ND	--	ND	--	ND	--	ND

DATE	HEPTA-CHLOR EPOXIDE IN BOTTOM MATERIAL (UG/KG)	TOTAL LINDANE (UG/L)	LINDANE IN BOTTOM MATERIAL (UG/KG)	TOTAL MALA-THION (UG/L)	MALA-THION IN BOTTOM MATERIAL (UG/KG)	TOTAL METH-OXY-CHLOR (UG/L)	METHOXYCHLOR IN BOTTOM MATERIAL (UG/KG)	TOTAL METHYL-PARA-THION (UG/L)	METHYL-PARA-THION IN BOTTOM MATERIAL (UG/KG)	TOTAL METHYL-TRI-THION (UG/L)	METHYL-TRI-THION IN BOTTOM MATERIAL (UG/KG)
OCT 29...	--	ND	--	ND	--	ND	--	ND	--	ND	--
FEB 03...	--	ND	--	ND	--	ND	--	ND	--	ND	--
MAY 05...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 18...	--	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	TOTAL PARA-THION (UG/L)	PARA-THION IN BOTTOM MATERIAL (UG/KG)	TOTAL TOX-APHENE (UG/L)	TOX-APHENE IN BOTTOM MATERIAL (UG/KG)	TOTAL TRI-THION (UG/L)	TRI-THION IN BOTTOM MATERIAL (UG/KG)	TOTAL ATPA-ZINE (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
OCT 29...	ND	--	ND	--	ND	--	ND	ND	ND	ND
FEB 03...	ND	--	ND	--	ND	--	ND	ND	ND	ND
MAY 05...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 18...	ND	--	ND	--	ND	--	ND	ND	ND	ND

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PERIPHYTON

Date	Length of exposure (days)	Biomass (g/m ²)		Chlorophyll a (mg/m ²)	Chlorophyll b (mg/m ²)	Biomass pigment ratio	Sampling method
		Dry weight	Ash weight				
JAN. 14	35	5.5	0.8	2.4	0.0	2000	Polyethylene strip
MAR. 10	36	16	15	1.3	.1	1300	Polyethylene strip

08377200 Rio Grande at Foster Ranch near Langtry, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

OCT. 29, 1975 1100 HOURS

PHYTOPLANKTON 11,000 CELLS/ML

ORGANISM_NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...COELASTRACEAE		
....COELASTRUM	960	9
....OCCYSTACEAE		
....ANKISTRODESMUS	1,800	17
....DICTYOSPHAERIUM		0
....TETRAEDRON	120	1
....SCENEDESMACEAE		
....CRUCIGENIA		0
....SCENEDESMUS	3,000	28
...TETRASPORALES		
...PALMELLACEAE		
...SPHAEROCYSTIS	1,700	16
CHRYCOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINODISCACEAE		
....CYCLOTELLA	480	5
....MELOSIRA	120	1
...PENNALES		
...NAVICULACEAE		
....AMPHIPRORA	240	2
....NAVICULA	120	1
...NITZSCHACEAE		
....NITZSCHIA	1,900	18
....SURIRELLACEAE		
....CYMATOPLEURA	120	1

NOV. 20, 1975 1000 HOURS

PHYTOPLANKTON 7,700 CELLS/ML

ORGANISM_NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...MICRACTINIACEAE		
....MICRACTINIUM	760	10
....OCCYSTACEAE		
....ANKISTRODESMUS	950	12
....FRANCEIA	95	1
....OCCYSTIS	380	5
....SCENEDESMACEAE		
....CRUCIGENIA	380	5
....SCENEDESMUS	380	5
CHRYCOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINODISCACEAE		
....CYCLOTELLA	95	1
....MELOSIRA	190	2
...PENNALES		
...ACHNANTHACEAE		
....ACHNANTHES	95	1
...NAVICULACEAE		
....GYROSIGMA		0
....NAVICULA	190	2
...NITZSCHACEAE		
....NITZSCHIA	2,300	30
CYANOPHYTA		
..MYXOPHYCEAE		
...CHROOCOCCALES		
...CHROOCOCCACEAE		
....ANACYSTIS	760	10
...OSCILLATORIALES		
...OSCILLATORIA	1,100	15

DEC. 10, 1975 1025 HOURS

PHYTOPLANKTON 1,900 CELLS/ML

ORGANISM_NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...OCCYSTACEAE	150	8
....ANKISTRODESMUS	150	8
....DICTYOSPHAERIUM	150	8
....OCCYSTIS		
....SCENEDESMACEAE		
....SCENEDESMUS	150	8
...VOLVOCALES		
...CHLAMYDOMONADACEAE		
....CHLAMYDOMONAS	73	4
CHRYCOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINODISCACEAE		
....CYCLOTELLA	110	6
...PENNALES		
...ACHNANTHACEAE		
....ACHNANTHES	37	2
...NAVICULACEAE		
....AMPHIPRORA		0
....CALONEIS	37	2
....NAVICULA	110	6
...NITZSCHACEAE		
....NITZSCHIA	920	49
EUGLENOPHYTA		
..CRYPTOPHYCEAE		
...CRYPTOMONIDALES		
...CRYPTOMONODACEAE		
....CRYPTOMONAS		0
..EUGLENOPHYCEAE		
...EUGLENALES		
...EUGLENACEAE		
....EUGLENA		0

JAN. 14, 1976 1045 HOURS

PHYTOPLANKTON 3,000 CELLS/ML

ORGANISM_NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...OCCYSTACEAE		
....OCCYSTIS		0
....SCENEDESMACEAE		
....SCENEDESMUS		0
...VOLVOCALES		
...CHLAMYDOMONADACEAE		
....CHLAMYDOMONAS	61	2
CHRYCOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINODISCACEAE		
....CYCLOTELLA	310	10
....MELOSIRA		0
...PENNALES		
...ACHNANTHACEAE		
....ACHNANTHES	860	29
...CYMBELLACEAE		
....CYMBELLA		0
...FRAGILARIACEAE		
....SYNEDRA		0
...GOMPHONEMACEAE		
....GOMPHONEMA		0
...NAVICULACEAE		
....AMPHIPRORA		0
....NAVICULA	310	10
...PINNULARIA		0
...NITZSCHACEAE		
....DENTICULA		0
....NITZSCHIA	1,500	49
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
...EUGLENALES		
...EUGLENACEAE		
....EUGLENA		0

08377200 Rio Grande at Foster Ranch near Langtry, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

FEB. 3, 1976 1045 HOURS

PHYTOPLANKTON 4,200 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...OCCYSTACEAE		
....ANKISTRODESMUS	110	3
....KIRCHNERIELLA	55	1
...SCENEDESMACEAE		
....SCENEDESMUS	220	5
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINODISCACEAE		
....CYCLOTELLA	220	5
..PENNALES		
....ACHNANTHACEAE		
....ACHNANTHES	720	17
....CYMBELLACEAE		
....CYMBELLA	55	1
...GOMPHONEMACEAE		
....GOMPHONEMA	55	1
...NAVICULACEAE		
....AMPHIPRORA	55	1
....NAVICULA	390	9
...NITZSCHACEAE		
....NITZSCHIA	1,800	42
CHRYSOPHYCEAE		
..CHRYSOMONADALES		
...OCHROMONADACEAE		
....DINOBYRON	610	14

MAR. 10, 1976 1030 HOURS

PHYTOPLANKTON 8,800 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...COELASTRACEAE		
....COELASTRUM	770	9
...HYDRODICTYACEAE		
....PEDIUM		0
...OCCYSTACEAE		
....ANKISTRODESMUS	290	3
....OCCYSTIS	770	9
...SCENEDESMACEAE		
....SCENEDESMUS	770	9
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINODISCACEAE		
....CYCLOTELLA	480	5
....MELOSTRA	96	1
..PENNALES		
....NAVICULACEAE		
....NAVICULA	96	1
...NITZSCHACEAE		
....NITZSCHIA	580	7
CYANOPHYTA		
..MYXOPHYCEAE		
...CHROOCOCCALES		
...CHROOCOCCACEAE		
....ANACYSTIS	5,000	57

APR. 13, 1976 1045 HOURS

PHYTOPLANKTON 7,400 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...OCCYSTACEAE		
....ANKISTRODESMUS	1,700	23
....DICTYOSPHAERIUM	1,100	15
....OCCYSTIS	1,400	18
...SCENEDESMACEAE		
....SCENEDESMUS	1,700	23
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINODISCACEAE		
....CYCLOTELLA	110	2
..PENNALES		
....ACHNANTHACEAE		
....ACHNANTHES	57	1
....CYMBELLACEAE		
....AMPHORA	57	1
....CYMBELLA		0
...NAVICULACEAE		
....NAVICULA	170	2
...NITZSCHACEAE		
....DENTICULA	57	1
....NITZSCHIA	1,000	14
CYANOPHYTA		
..MYXOPHYCEAE		
...CHROOCOCCALES		
...CHROOCOCCACEAE		
....ANACYSTIS		0
PYRRHOPHYTA		
..DINOPHYCEAE		
...PERIDINIALES		
...PERIDINIACEAE		
....PERIDINIUM		0

MAY 5, 1976 1035 HOURS

PHYTOPLANKTON 2,600 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...OCCYSTACEAE		
....FRANCOELLA	34	1
...SCENEDESMACEAE		
....SCENEDESMUS	990	38
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..PENNALES		
....CYMBELLACEAE		
....CYMBELLA	34	1
...NAVICULACEAE		
....NAVICULA	150	6
...NITZSCHACEAE		
....DENTICULA	110	4
....NITZSCHIA	270	10
CYANOPHYTA		
..MYXOPHYCEAE		
...CHROOCOCCALES		
...CHROOCOCCACEAE		
....ANACYSTIS	310	12
...OSCILLATOIRIALES		
...OSCILLATOIRIACEAE		
....OSCILLATOIRIA	490	26

08377200 Rio Grande at Foster Ranch near Langtry, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

JUNE 15, 1976 1030 HOURS

PHYTOPLANKTON 1,900 CELLS/ML

ORGANISM__NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..OCCYSTACEAE		
....ANKISTRODESMUS	29	2
....KIRCHNERIELLA	29	2
....TETRAEDRON	29	2
....SCENEDESMACEAE		
....SCENEDESMUS	170	9
....TETRASTRUM	120	6
CHRYSTOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCEAE		
....CYCLOTELLA	120	6
....MELOSIRA	380	20
..PENNALES		
....ACHNANTHACEAE		
....ACHNANTHES	290	15
....NAVICULACEAE		
....NAVICULA	140	8
....PINNULARIA	87	5
....NITZSCHIA		
....NITZSCHIA	200	11
CYANOPHYTA		
..MYXOPHYCEAE		
..OSCILLATORIALES		
..NOSTOCACEAE		
....ANABAENA	260	14
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
..EUGLENALES		
....EUGLENACEAE		
....EUGLENA	29	2

JULY 28, 1976 1035 HOURS

PHYTOPLANKTON 1,700 CELLS/ML

ORGANISM__NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..TETRASPORALES		
..COCCOMYXACEAE		
....ELAKATOTHRIX	570	33
CHRYSTOPHYTA		
..BACILLARIOPHYCEAE		
..PENNALES		
....ACHNANTHACEAE		
....ACHNANTHES	280	17
....FRAGILARIACEAE		
....SYNEDRA		0
....NAVICULACEAE		
....NAVICULA	280	17
....NITZSCHIA		
....NITZSCHIA	570	33

AUG. 18, 1976 1105 HOURS

PHYTOPLANKTON 530 CELLS/ML

ORGANISM__NAME_____	CELLS/ML	PER_CENT
CHRYSTOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCEAE		
....CYCLOTELLA	27	5
..PENNALES		
....ACHNANTHACEAE		
....COCCONEIS	53	10
....CYMBELLACEAE		
....CYMBELLA	80	15
..MERIDIONACEAE		
....MERIDION	27	5
..NAVICULACEAE		
....CALONEIS	27	5
....NAVICULA	130	25
..NITZSCHIA		
....NITZSCHIA	190	35

SEP. 29, 1976 1035 HOURS

PHYTOPLANKTON 1,400 CELLS/ML

ORGANISM__NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..OCCYSTACEAE		
....DICTYOSPHAERIUM	100	7
....SCENEDESMACEAE		
....SCENEDESMUS	100	7
CHRYSTOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCEAE		
....CYCLOTELLA	26	2
....MELOSIRA	280	20
..PENNALES		
....FRAGILARIACEAE		
....SYNEDRA	280	20
CYANOPHYTA		
..MYXOPHYCEAE		
..OSCILLATORIALES		
..NOSTOCACEAE		
....CYLINDROSPERMUM	640	45

08377200 Rio Grande at Foster Ranch near Langtry, Tex.--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

MONTH	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA+MG) (MG/L)
OCT. 1975.....	23379	1220	780	49500	88	5570	330	20800	290
NOV. 1975.....	21120	1230	740	45100	90	5140	330	18900	300
DEC. 1975.....	21689	1280	820	48100	100	5800	340	20100	300
JAN. 1976.....	22101	1340	860	51400	110	6700	360	21400	320
FEB. 1976.....	14856	1290	830	33300	100	4110	350	14100	310
MAR. 1976.....	13149	1240	830	28400	93	3310	340	11900	300
APR. 1976.....	12177	987	630	20800	56	1840	260	8420	250
MAY 1976.....	25904	838	540	37600	40	2420	210	14500	220
JUNE 1976.....	36681	1070	690	67900	67	6630	280	27800	260
JULY 1976.....	110370	895	570	171000	45	13400	230	67800	230
AUG. 1976.....	96990	1040	670	175000	62	16100	270	71500	260
SEPT 1976.....	72380	917	590	115000	45	8770	230	45900	230
TOTAL	471796	**	**	843000	**	80300	**	343000	**
WTD.AVG.	1289.85	1030	660	**	63	**	270	**	260

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1150	1250	1270	1200	1310	1280	1080	929	1120	1150	1090	864
2	1140	1250	1260	1230	1290	1250	1100	714	1160	1160	1050	905
3	1150	1140	1240	1260	1300	1270	1000	495	1180	1120	1060	942
4	1160	1180	1170	1300	1280	1290	850	466	1230	1060	1120	827
5	1200	1210	1200	1440	1260	1320	536	776	1220	1120	1010	874
6	1230	1240	1220	1420	1240	1350	884	488	1170	1090	991	884
7	1210	1280	1240	1410	1250	1320	1070	550	1180	1060	1060	662
8	1190	1290	1230	1400	1230	1300	1090	444	1210	1120	1100	792
9	1180	1250	1240	1340	1260	1310	1040	410	1230	1040	1120	996
10	1210	1230	1290	1320	1280	1290	1090	433	1330	1100	1140	827
11	1230	1220	1310	1330	1290	1270	1060	543	1280	1140	1160	798
12	1220	1150	1320	1340	1270	1260	1000	1150	1120	1120	1150	979
13	1210	1160	1350	1330	1280	1280	1010	1140	1090	1110	1130	851
14	1200	1130	1340	1320	1290	1290	1070	1550	1130	1000	1140	736
15	1250	1160	1330	1530	1300	1300	1010	500	1150	1010	1100	954
16	1180	1300	1280	1340	1310	1290	1000	564	650	1200	1090	1040
17	990	1200	1220	1330	1320	1280	1030	1010	573	639	1030	1190
18	1210	1240	1180	1340	1330	1250	1000	1170	953	450	1080	1220
19	1250	1280	1140	1350	1320	1260	1140	450	817	893	1060	954
20	1260	1350	1130	1340	1300	1290	1150	1000	1060	933	1050	617
21	1250	1320	1200	1340	1310	1260	1170	748	1130	800	949	898
22	1240	1280	1270	1350	1320	1210	1180	764	1140	941	978	920
23	1270	1280	1370	1360	1320	1150	1140	407	1160	850	965	905
24	1290	1190	1400	1320	1310	1110	1100	1120	1140	700	957	891
25	1300	1210	1350	1330	1350	1120	1090	947	1150	810	947	979
26	1240	1220	1480	1340	1310	1140	1060	1010	1170	889	938	1010
27	1290	1240	1370	1350	1290	1150	1040	1140	1100	1110	953	1030
28	1300	1240	1250	1360	1250	1130	1020	1060	1110	1120	987	1050
29	1240	1250	1190	1340	1270	1110	947	1070	1170	1080	882	1070
30	1270	1280	1170	1320	---	1120	584	1150	1140	1090	961	1060
31	1260	---	1190	1340	---	1090	---	1170	---	765	896	---
MONTH	1220	1230	1270	1340	1290	1240	1020	913	1110	949	1040	924

RIO GRANDE BASIN

08377200 Rio Grande at Foster Ranch near Langtry, Tex.--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.0	22.0	14.5	14.0	14.0	21.0	21.5	23.0	31.0	28.5	29.0	26.0
2	23.5	22.0	14.5	13.0	15.0	22.0	20.0	23.5	30.0	28.0	27.0	28.0
3	23.0	23.0	15.0	13.0	14.0	23.0	22.0	23.0	29.0	29.0	29.0	27.0
4	23.0	20.0	16.0	10.0	16.0	23.5	18.0	20.5	27.0	28.0	29.5	28.0
5	23.0	23.0	28.0	11.5	18.0	21.0	22.0	25.0	26.0	29.0	29.0	28.0
6	23.0	23.0	26.0	11.5	14.0	18.0	20.0	23.5	25.0	28.0	29.0	28.0
7	23.0	22.0	16.5	9.5	13.0	16.0	24.0	22.0	27.0	28.5	30.0	27.0
8	24.0	21.0	16.5	9.0	16.5	16.5	20.5	17.0	28.0	26.0	28.5	28.0
9	25.0	23.0	15.5	10.0	17.0	19.0	23.0	21.0	28.0	26.0	29.0	28.0
10	25.5	20.5	16.0	11.0	18.5	17.0	24.0	22.0	28.0	26.0	29.0	26.0
11	26.0	22.0	15.5	10.0	20.0	22.0	23.0	25.0	28.0	27.0	29.0	25.0
12	25.0	19.5	15.0	11.5	18.0	23.0	24.0	23.5	30.0	25.5	29.0	28.0
13	24.5	18.5	16.0	14.5	19.0	19.5	26.0	---	29.0	26.5	29.0	27.0
14	25.5	17.0	---	12.0	20.0	18.0	25.0	27.0	30.0	27.0	29.0	27.0
15	24.0	16.5	15.0	14.5	20.0	21.5	22.0	27.0	30.0	28.0	29.0	28.0
16	24.5	18.0	16.0	15.5	22.0	20.0	23.0	27.0	30.0	28.0	29.0	28.0
17	23.0	19.0	15.0	13.0	21.0	20.0	23.0	23.0	26.5	27.0	28.0	27.0
18	20.0	20.0	12.0	13.0	20.5	20.0	24.0	22.0	30.0	---	27.0	25.5
19	23.0	19.0	10.5	13.5	21.0	22.0	26.0	22.0	30.0	28.0	28.0	26.5
20	23.0	17.0	12.0	13.0	21.5	23.5	25.0	24.0	29.0	28.0	27.0	26.0
21	21.0	15.5	11.5	12.0	17.0	19.0	26.0	25.0	29.5	27.0	28.0	26.0
22	24.0	15.5	15.0	13.0	17.0	19.5	25.0	26.0	29.0	26.0	27.0	26.0
23	25.0	14.0	14.5	15.0	17.0	18.0	25.5	24.5	29.0	26.5	---	27.0
24	24.0	14.5	13.5	15.5	17.0	23.0	28.0	29.5	30.0	27.0	28.0	25.0
25	21.0	13.5	14.0	16.0	18.0	25.0	26.0	28.0	28.0	28.0	28.0	28.0
26	21.0	12.0	14.5	13.5	18.5	24.0	28.0	28.5	29.0	28.0	28.0	26.5
27	20.0	13.0	14.5	13.0	20.0	20.0	25.0	24.5	29.0	28.5	28.0	28.0
28	23.5	13.5	14.0	12.0	20.0	20.0	24.5	28.0	27.0	29.0	28.0	25.0
29	23.0	16.0	13.0	10.0	21.5	20.0	22.0	29.0	29.0	29.0	28.0	25.0
30	20.5	15.0	13.0	13.0	---	21.5	22.0	30.0	28.5	29.0	28.5	24.5
31	23.0	---	13.0	13.5	---	22.0	---	31.0	---	27.0	28.0	---
MONTH	23.5	18.5	15.0	12.5	18.0	20.5	23.5	25.0	28.5	27.5	28.5	27.0

RIO GRANDE BASIN

469

08407500 Pecos River at Red Bluff, N. Mex.
(National stream-quality accounting network and surveillance program station)

LOCATION.--Lat 32°04'30", long 104°02'21", in SW¼NW¼NE¼ sec. 1, T.26 S., R.28 E., Eddy County, on right bank at Red Bluff, 0.2 mile (0.3 km) downstream from Red Bluff Draw, 1.6 miles (2.6 km) northwest of the El Paso Natural Gas (Pecos River) compressor station, 5.2 miles (8.4 km) north of the New Mexico-Texas State line, 5.5 miles (8.8 km) upstream from Delaware River, and at mile 411.3 (661.8 km).

DRAINAGE AREA.--19,540 mi² (50,610 km²), approximately (contributing area).

PERIOD OF RECORD.--Discharge: October 1937 to current year.

Water quality: Specific conductance: July 1937 to current year. Water temperatures: October 1952 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,850.05 ft (868.695 m) above mean sea level.

AVERAGE DISCHARGE.--39 years, 183 ft³/s (5.183 m³/s), 132,600 acre-ft/yr (163 hm³/yr).

EXTREMES.--Discharge: Current year: Maximum discharge, 491 ft³/s (13.9 m³/s) Sept. 9 (gage height, 5.23 ft or 1.594 m); minimum, 5.6 ft³/s (0.16 m³/s) July 30.

Period of record: Maximum discharge, 111,000 ft³/s (3,140 m³/s) Aug. 23, 1966 (gage height, 33.32 ft or 10.156 m), from rating curve extended above 30,000 ft³/s (850 m³/s) on basis of slope-area measurement of peak flow; minimum, 0.19 ft³/s (0.005 m³/s) Aug. 1, 1966.

Historic: The flood of Aug. 23, 1966, exceeded all known floods at this location. Flood in October 1904 reached a stage of 28.0 ft (8.53 m), from information by Panhandle and Santa Fe Railway Co.

Water quality: Current year: Maximum daily specific conductance, 44,600 micromhos Aug. 26; minimum daily, 7,080 micromhos Sept. 9. Maximum water temperatures, 32.0°C Aug. 5; minimum, 5.0°C Dec. 18, 20.

Period of record: Maximum daily specific conductance, 51,400 micromhos June 20, 1972; minimum daily, 268 micromhos Sept. 18, 1946. Maximum water temperatures, 36.0°C July 31, 1966, July 13, 1970; minimum, 1.0°C Jan. 10, 11, 1962, Jan. 13, 1963.

REMARKS.--Discharge records fair. Flow regulated by storage in Lake Sumner, Lake McMillan, Lake Avalon, and by several small diversion dams that divert for power or irrigation. Diversions and ground-water withdrawals above station for irrigation of about 202,000 acres (82,000 hm²), 1959 determination. No appreciable inflow between discharge station and sampling point (2 miles or 3 km downstream) except during periods of flood runoff.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	47	63	47	48	25	20	30	9.9	7.4	8.6	11
2	29	48	64	47	48	25	16	27	10	7.4	11	11
3	29	50	63	47	48	25	16	24	11	8.2	8.6	11
4	28	51	63	47	48	24	16	30	11	8.6	7.1	11
5	28	51	63	46	50	22	18	112	9.9	8.6	7.1	9.9
6	28	51	63	45	51	22	17	38	9.9	9.0	7.4	9.4
7	28	50	63	43	49	23	18	48	9.9	9.0	7.4	12
8	28	50	63	41	48	25	16	34	11	8.6	6.8	20
9	28	50	62	41	47	24	14	32	10	9.0	6.8	25.8
10	28	51	62	41	47	22	15	27	9.9	9.0	6.5	11.8
11	30	51	63	40	48	21	18	25	10	26	6.5	97
12	30	51	64	40	46	22	18	22	11	71	6.5	35
13	28	52	64	41	48	22	19	21	11	13	7.4	20
14	28	52	62	42	46	24	18	23	9.9	9.0	8.6	19
15	30	52	62	43	44	25	16	26	9.9	9.4	9.0	13
16	29	53	62	44	43	24	16	26	9.9	17	8.2	12
17	36	55	60	47	42	22	16	23	8.6	21	8.2	11
18	38	56	60	48	40	22	16	19	8.6	15	9.4	12
19	38	57	60	49	36	22	14	16	9.9	14	8.6	15
20	34	57	60	48	34	22	17	15	11	11	8.2	73
21	32	57	59	47	29	20	14	14	11	9.4	8.2	72
22	33	56	56	46	26	20	14	15	10	9.0	10	31
23	33	57	56	46	27	20	18	13	9.0	9.0	9.0	18
24	33	58	57	46	28	19	18	12	8.6	9.0	8.2	16
25	33	60	57	45	27	20	17	12	8.6	7.4	7.8	15
26	35	60	58	45	25	20	14	13	9.4	7.8	7.1	14
27	39	60	57	46	25	18	15	11	8.2	7.4	7.1	13
28	41	62	56	46	26	17	14	11	8.6	7.4	8.6	12
29	42	60	52	47	26	20	14	12	8.6	21	9.4	12
30	45	62	49	48	---	20	18	12	7.8	7.4	9.4	12
31	45	---	49	50	---	20	---	11	---	8.6	24	---
TOTAL	1015	1629	1852	1399	1152	677	488	754	292.1	394.6	266.7	993.3
MFAN	32.7	54.3	59.7	45.1	39.7	21.8	16.3	24.3	9.74	12.7	8.60	33.1
MAX	45	62	64	50	51	25	20	112	11	71	24	25.8
MIN	28	47	49	40	25	17	14	11	7.8	7.4	6.5	9.4
AC-FT	2010	3230	3670	2770	2280	1340	258	1300	579	783	529	1970

CAL YR 1975 TOTAL 21493.0 MFAN 60.3 MAX 198 MIN 22 AC-FT 43520
WTR YR 1976 TOTAL 10912.7 MFAN 29.8 MAX 258 MIN 6.5 AC-FT 21650

RIO GRANDE BASIN

08407500 Pecos River at Red Bluff, N. Mex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS) (00041)	SPECIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	AIR TEMPER- ATURE (DEG C) (00020)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (JTU) (00070)	DIS- SOLVED OXYGEN (MG/L) (00300)	CHEM- ICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L) (00340)	HARD- NESS (CA+MG) (MG/L) (00900)
OCT										
29...	1120	27	14500	7.5	20.0	16.5	1	8.8	150	2500
NOV										
20...	1630	60	12500	7.6	5.0	10.0	0	10.0	110	2200
DEC										
18...	1445	60	8900	8.0	6.5	5.0	6	--	64	1400
JAN										
08...	1200	41	11200	8.0	7.0	7.0	8	11.3	84	2000
FEB										
05...	1600	50	10500	8.0	22.5	13.5	8	10.3	100	1900
MAR										
11...	1215	20	21700	8.0	24.5	15.0	1	9.8	91	2600
APR										
13...	1500	19	23500	7.6	32.0	18.0	2	10.0	280	2900
MAY										
20...	1500	15	18000	8.0	36.0	25.0	8	11.4	340	2700
JUN										
17...	1730	8.6	31500	8.0	42.0	30.0	4	11.0	190	3600
JUL										
21...	1715	4.0	22000	8.0	29.0	29.0	1	11.2	450	2900
SEP										
03...	1315	11	28000	7.9	35.5	25.0	8	11.2	540	3000

DATE	NON- CAR- BONATE HARD- NESS (MG/L) (00902)	DIS- SOLVED CAL- CIUM (CA) (MG/L) (00915)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) (00925)	DIS- SOLVED SODIUM (NA) (MG/L) (00930)	SODIUM AD- SONP- TION RATIO (00931)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L) (00935)	BICAR- BONATE (HCO3) (MG/L) (00440)	CAR- BONATE (CO3) (MG/L) (00445)	DIS- SOLVED SULFATE (SO4) (MG/L) (00945)
OCT									
29...	2360	570	250	2500	22	98	137	0	2100
NOV									
20...	2000	530	210	2000	19	73	173	0	1900
DEC									
18...	1300	240	190	1600	19	62	67	0	1600
JAN									
08...	1900	490	200	1900	18	75	120	0	1800
FEB									
05...	1800	450	180	1800	18	63	87	0	1700
MAR									
11...	2500	570	290	4200	36	180	139	0	2200
APR									
13...	2700	600	330	4500	37	210	165	0	2600
MAY									
20...	2600	590	290	3600	30	130	69	0	2300
JUN									
17...	3500	710	450	8000	58	330	124	0	3500
JUL									
21...	2900	570	360	6500	52	280	113	0	2500
SEP									
03...	2900	610	350	5600	45	250	106	0	2200

RIO GRANDE BASIN

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08407500 Pecos River at Red Bluff, N. Mex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS-SOLVED CHLORIDE (CL) (MG/L) (00940)	DIS-SOLVED FLUORIDE (F) (MG/L) (00950)	DIS-SOLVED SILICA (SI02) (MG/L) (00955)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L) (70300)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) (70301)	TOTAL NITRITE PLUS NITRATE (N) (MG/L) (00630)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L) (00631)	TOTAL AMMONIA NITROGEN (N) (MG/L) (00610)	TOTAL ORGANIC NITROGEN (N) (MG/L) (00605)
OCT 29...	4300	.8	10	10400	9900	.53	.53	.05	1.2
NOV 20...	3100	.5	4.1	7850	7910	1.0	.51	.06	2.4
DEC 18...	2600	.6	.1	6890	6330	.11	.11	.00	1.9
JAN 08...	3100	.8	.3	8210	7630	57	52	.04	1.8
FEB 05...	2900	.7	.1	7310	7140	.04	.04	.01	2.3
MAR 11...	6900	.8	7.2	15500	14400	.29	.29	.52	1.8
APR 13...	7600	.8	6.5	16300	15900	.18	.17	.36	1.5
MAY 20...	6100	1.0	4.7	13100	13100	.01	.01	.16	.94
JUN 17...	13000	1.3	7.7	25400	26100	.15	.01	.06	.73
JUL 21...	9900	.7	4.1	20000	20200	.01	.04	.10	.53
SEP 03...	9000	.9	11	19400	18100	.02	.00	.01	.97

DATE	TOTAL NITROGEN (N) (MG/L) (00600)	TOTAL PHOSPHORUS (P) (MG/L) (00665)	DIS-SOLVED ORTHOPHOSPHORUS (P) (MG/L) (00671)	DIS-SOLVED PHOSPHORUS (P) (MG/L) (01020)	DIS-SOLVED IRON (FE) (MG/L) (01046)	DIS-SOLVED MANGANESE (MN) (MG/L) (01056)	TOTAL ORGANIC CARBON (C) (MG/L) (00680)	DIS-SOLVED ORGANIC CARBON (C) (MG/L) (00681)	SUSPENDED ORGANIC CARBON (C) (MG/L) (00689)
OCT 29...	1.7	.02	.02	840	30	--	--	5.9	.4
NOV 20...	3.5	.03	.00	680	10	20	--	13	--
DEC 18...	2.0	.02	.01	580	10	--	--	6.6	5.0
JAN 08...	59	.02	.00	600	10	--	--	6.2	2.6
FEB 05...	2.3	.04	.01	590	10	--	--	6.4	5.6
MAR 11...	2.6	.12	.03	1300	30	130	7.9	5.3	2.4
APR 13...	2.1	.05	.06	4000	20	--	--	13	1.7
MAY 20...	1.1	.05	.01	730	70	10	7.2	6.0	--
JUN 17...	.94	.06	.01	1400	100	--	--	10	--
JUL 21...	.64	.03	.04	1600	60	--	--	9.1	2.3
SEP 03...	1.0	.07	.02	1600	30	--	--	8.4	3.9

DATE	TIME	TOTAL ARSENIC (AS) (UG/L) (01002)	DIS-SOLVED ARSENIC (AS) (UG/L) (01003)	DIS-SOLVED ARSENIC (AS) (UG/L) (01020)	TOTAL CADMIUM (CD) (UG/L) (01027)	DIS-SOLVED CADMIUM (CD) (UG/L) (01025)	TOTAL CHROMIUM (CR) (UG/L) (01034)	DIS-SOLVED CHROMIUM (CR) (UG/L) (01030)	TOTAL COBALT (CO) (UG/L) (01037)	DIS-SOLVED COBALT (CO) (UG/L) (01035)	TOTAL COPPER (CU) (UG/L) (01042)	DIS-SOLVED COPPER (CU) (UG/L) (01040)
NOV 20...	1630	1	1	680	10	0	30	30	450	0	30	0
MAR 11...	1215	1	1	1000	30	0	20	20	100	2	30	1
MAY 20...	1500	3	1	730	0	1	20	0	0	0	2	2

DATE	TIME	TOTAL IRON (FE) (UG/L) (01045)	DIS-SOLVED IRON (FE) (UG/L) (01046)	TOTAL LEAD (PB) (UG/L) (01051)	DIS-SOLVED LEAD (PB) (UG/L) (01047)	TOTAL MANGANESE (MN) (UG/L) (01055)	DIS-SOLVED MANGANESE (MN) (UG/L) (01056)	TOTAL MERCURY (HG) (UG/L) (01060)	DIS-SOLVED MERCURY (HG) (UG/L) (01060)	TOTAL NICKEL (SE) (UG/L) (01147)	DIS-SOLVED NICKEL (SE) (UG/L) (01145)	TOTAL ZINC (ZN) (UG/L) (01092)	DIS-SOLVED ZINC (ZN) (UG/L) (01090)
NOV 20...	1630	80	10	200	0	30	20	.0	.0	2	2	10	10
MAR 11...	1215	370	30	350	1	210	130	.0	.0	2	2	30	10
MAY 20...	1500	370	70	0	0	120	10	.1	.1	2	1	20	10

RIO GRANDE BASIN

08407500 Pecos River at Red Bluff, N. Mex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	FECAL COLIFORM (COL. PER 100 ML)		STREPTOCOCCI (COL. ONIES PER 100 ML)								
		(31616)	(31616)	(31679)	(31679)							
OCT												
29...	1120	--		17								
NOV												
20...	1630	11		9								
DEC												
18...	1445	2		3								
JAN												
04...	1200	6		6								
FEB												
05...	1600	3		3								
MAR												
11...	1215	1		0								
APR												
13...	1500	1800		14								
MAY												
20...	1500	60		74								
JUN												
17...	1730	0		140								
JUL												
21...	1715	150		200								
SEP												
03...	1315	10		120								

DATE	TIME	TOTAL ALDRIN (UG/L)	TOTAL CHLOR-DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI-ALINON (UG/L)	TOTAL DI-ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	TOTAL HEPTA-CHLOR (UG/L)	TOTAL HEPTA-CHLOR EPOXIDE (UG/L)
		(39330)	(39350)	(39360)	(39365)	(39370)	(39570)	(39380)	(39390)	(39398)	(39410)	(39420)
JUL												
21...	1715	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

DATE	TIME	TOTAL LINDANE (UG/L)	TOTAL MALA-THION (UG/L)	TOTAL METH-CHLOR (UG/L)	TOTAL METHYL-PARA-THION (UG/L)	TOTAL METHYL-THION (UG/L)	TOTAL PARA-THION (UG/L)	TOTAL TCX-APHENE (UG/L)	TOTAL TRI-THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
		(39340)	(39530)	(39480)	(39600)	(39790)	(39540)	(39400)	(39786)	(39730)	(39740)	(39760)
JUL												
21...		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

DATE	TIME	TEMPER-ATURE (DEG C)	INSTAN-TANEOUS DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT CHARGE (T/DAY)	SUS-SED. SIEVE DIAM. % FINER THAN .062 MM
		(00010)	(00061)	(80154)	(80155)	(70331)
DEC						
18...	1445	5.0	60	18	2.9	95
JAN						
08...	1200	7.0	41	21	2.3	69
FEB						
05...	1600	13.5	50	26	3.5	85
MAR						
11...	1215	15.0	20	27	1.5	92
APR						
13...	1500	18.0	19	19	.97	92
MAY						
20...	1500	25.0	15	14	.57	97
JUN						
17...	1730	30.0	8.6	19	.44	98
JUL						
21...	1715	29.0	9.0	8	.19	98
SEP						
03...	1315	25.0	11	8	.24	99

DATE	TIME	LENGTH OF EXPO-SURE (DAYS)	PERI-PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M	UNCOR-RECTED PERI-PHYTON CHLORO-PHYLL A MG/SQ M	UNCOR-RECTED PERI-PHYTON CHLORO-PHYLL B MG/SQ M	BIOMASS CHLORO-PHYLL RATIO PERI-PHYTON (UNITS)	Sampling method
		(00022)	(00573)	(00572)	(32228)	(32226)	(70950)	
NOV								
20...	22	4.40	2.90	1.80	.100	800		Polyethylene strip
SEP								
03...	44	72.4	64.8	37.4	2.24	200		"

08407500 Pecos River at Red Bluff, N. Mex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

PHYTOPLANKTON

OCT. 29, 1975
1120 HOURS

27,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
CHLOROPHYCEAE			
CHLOROCOCCALFS			
NOCTISTATONISMIUS		1,400	7
NOCTISTATONISMIUS		420	2
SCENEDESMACEAE			
SCENEDESMUS			
TOTALS		1,820	5
		3,700	14
CHRYCOPHYTA			
BACILLARIOPHYCEAE	DIATOMS		
CENTRALES	CENTRIC		
COSCINOIDISCAEAE			
CYCLOTELLA		4,900	18
PENNALS	PENNATE		
NITZSCHIAEAE			
NITZSCHIA			
TOTALS		11,000	42
		16,000	60
CYANOPHYTA	BLUE-GREEN ALGAE		
MYXOPHYCEAE			
CHLOROCOCCALFS	COCCOID		
CHLOROCOCCACEAE			
ACUMENELLUM		3,400	12
ANACYSTIS		2,200	8
OSCELLATONIALES	FILAMENTOUS		
OSCELLATONIAEAE			
LYNGRYA			
TOTALS		1,800	7
		7,400	27

DEC. 14, 1975
1445 HOURS

41,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
CHLOROPHYCEAE			
CHLOROCOCCALFS			
NOCTISTATONISMIUS		1,000	2
NOCTISTATONISMIUS			0
DICTYOSPHAERIUM			0
WIMMERIELLA			0
SCENEDESMACEAE			
SCENEDESMUS			
TOTALS		920	2
		2,100	4
CHRYCOPHYTA			
BACILLARIOPHYCEAE	DIATOMS		
CENTRALES	CENTRIC		
COSCINOIDISCAEAE			
CYCLOTELLA		39,000	94
PENNALS	PENNATE		
NAVICULACEAE	NAVICULOID		
NAVICULA			0
NITZSCHIAEAE			
NITZSCHIA			
TOTALS		390	1
		39,000	95

JAN. 8, 1976
1200 HOURS

42,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
CHLOROPHYCEAE			
CHLOROCOCCALFS			
NOCTISTATONISMIUS		1,400	3
NOCTISTATONISMIUS		690	2
NOCTISTATONISMIUS			0
SCENEDESMACEAE			
SCENEDESMUS			
TOTALS		1,000	2
		3,100	7
CHRYCOPHYTA			
BACILLARIOPHYCEAE	DIATOMS		
CENTRALES	CENTRIC		
COSCINOIDISCAEAE			
CYCLOTELLA		35,000	83
PENNALS	PENNATE		
ACANTHACEAE			
ACANTHACEAE			0
CYMAELLACEAE			0
AMPHORA			0
NAVICULACEAE	NAVICULOID		
GYROSIGMA			0
NITZSCHIAEAE			
NITZSCHIA			
TOTALS		35,000	83
			0
CYANOPHYTA	BLUE-GREEN ALGAE		
MYXOPHYCEAE			
CHLOROCOCCALFS	COCCOID		
CHLOROCOCCACEAE			
ANACYSTIS			
TOTALS		3,900	9
			2

RIO GRANDE BASIN

08407500 Pecos River at Red Bluff, N. Mex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

PHYTOPLANKTON

FEB. 5, 1976
1600 HOURS

47,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
...OCYSTACEAE			
....ANKISTRODESMIUS			0
....PHYCISTIS			0
....SCENEDESMAEAE			
....SCENEDESMIUS			0
..VOLVOCEAE			
...CHLAMYDOMONADACEAE			
...CHLAMYDOMONAS			0
CHRYSOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINOIDSACEAE			
...CYCLOTELLA		47,000	100
..PENNALES	PENNATE		
...CYMBELLACEAE			0
...CYMELLA			
...NAVICULACEAE	NAVICULOID		
...GYROSIGMA			0
...NAVICULA			0
...NITZSCHIAEAE			
...NITZSCHIA			0
TOTALS		47,000	100
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
..OSCILLATORIALES	FILAMENTOUS		
..OSCILLATORIAEAE			
...OSCILLATORIA			0
EUGLENOPHYTA	EUGLENOIDS		
..EUGLENOPHYCEAE			
..EUGLENALES			
...EUGLENACEAE			
...EUGLENA			0

MAR. 11, 1976
1215 HOURS

25,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
...OCYSTACEAE			
....ANKISTRODESMIUS		320	0
....KIRCHNERIELLA			1
....SCENEDESMAEAE			
....SCENEDESMIUS			
TOTALS		320	1
CHRYSOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...CHAETOCERACEAE			
...CHAETOCEROS		840	3
...COSCINOIDSACEAE			
...CYCLOTELLA		19,000	77
..PENNALES	PENNATE		
...NAVICULACEAE	NAVICULOID		
...GYROSIGMA			0
...NITZSCHIAEAE			
...NITZSCHIA			
TOTALS		20,160	83
CHRYSOPHYCEAE	YELLOW-BROWN ALGAE		
..CHRYSDOMONADES			
...CHROMONADACEAE			
...UHOLENOPSIS			
TOTALS		2,700	11
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
..OSCILLATORIALES	FILAMENTOUS		
..OSCILLATORIAEAE			
...OSCILLATORIA		320	1
TOTALS		320	1

08407500 Pecos River at Red Bluff, N. Mex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

PHYTOPLANKTON

APR. 13, 1976

1500 HOURS

6,300 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...NOCTISTACEAE			
...ANKISTHODESMUS		320	5
...HCHNFRITELLA		630	10
...NOCTISTIS		620	7
...SCENEDESMACEAE			
...SCENEDESMUS		210	3
TOTALS		1,600	25
CHRYSIOPHYTA			
..RACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINOIDISCAEAE			
...CYCLOTELLA		4,400	70
..PENNALES	PENNATE		
...NITZSCHIAEAE			
...NITZSCHIA		210	3
TOTALS		4,600	73
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
...CHROCOCCALES	COCOID		
...CHROCOCCACEAE			
...ANACYSTIS			0
EUGLENOPHYTA	EUGLENOIDS		
..EUGLENOPHYCEAE			
..EUGENALES			
...EUGLENACEAE			
...EUGLENA		110	2
TOTALS		110	2

MAY 20, 1976

1500 HOURS

55 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...NOCTISTACEAE			
...ANKISTHODESMUS		4	7
...NOCTISTIS		15	27
...SCENEDESMACEAE			
...SCENEDESMUS		7	13
...ZYGNEMATALES			
...DESMIDIACEAE	PLACODERM DESMIDS		
...COSMARJUM		4	7
TOTALS		29	54
CHRYSIOPHYTA			
..RACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINOIDISCAEAE			
...CYCLOTELLA		7	13
..PENNALES	PENNATE		
...NITZSCHIAEAE			
...NITZSCHIA		18	33
TOTALS		26	46

JUNE 17, 1976

1730 HOURS

1,800 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...NOCTISTACEAE			
...ANKISTHODESMUS		39	2
...NOCTISTIS		310	17
TOTALS		350	19
CHRYSIOPHYTA			
..RACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINOIDISCAEAE			
...CYCLOTELLA		770	43
..PENNALES	PENNATE		
...CYMBELLACEAE			
...CYMBELLA		120	7
...NAVICULACEAE	NAVICULOID		
...NAVICULA		390	22
TOTALS		1,300	72
EUGLENOPHYTA	EUGLENOIDS		
..CRYPTOPHYCEAE	CRYPTOMONADS		
...CRYPTOMONADALS			
...CRYPTOCHRYSIDACEAE			
...CRYPTOMONAS		39	2
...CRYPTOMONADACEAE			
...CRYPTOMONAS		39	2
TOTALS		77	4
PYRROPHYTA	FIRE ALGAE		
..DINOPHYCEAE	DINOFAGELLATES		
...PERIDINIALES			
...GLENODINIACEAE			
...GLENODINIUM		77	4
TOTALS		77	4

RIO GRANDE BASIN

08407500 Pecos River at Red Bluff, N. Mex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

PHYTOPLANKTON

JULY 21, 1976

1715 HOURS

100 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHRYSDOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
...PFIPIALES	PENNATE		
...FRAGILARIACEAE		36	35
...SYNEDRA			
...NAVICULACEAE	NAVICULOID	31	30
...GYROSIGMA		27	26
...NAVICULA			
...NITZSCHIA			
...NITZSCHIA			
TOTALS		94	95
PYRROPHYTA	FIRE ALGAE		
..DINOPHYCEAE	DINOFAGELLATES		
...PERIDINIALES			
...PERIDINIALES			
...PERIDINIUM			
TOTALS		4	4

SEP. 3, 1976

1315 HOURS

2,300 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...NOCTYSTACEAE			
...NOCTYSTIS			
TOTALS		95	4
CHRYSDOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
...CENTRALES	CENTRIC		
...DINOSINODISCACEAE			
...MELOSIRA			
TOTALS		240	11
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
...OSCILLATORIALES	FILAMENTOUS		
...NOSTOCACEAE			
...APHANIZOMENON			
TOTALS		1,900	84
EUGLENOPHYTA	EUGLENOIDS		
..EUGLENOPHYCEAE			
...EUGLENALES			
...EUGLENACEAE			
...TRACHELOMONAS			
TOTALS		24	1

RIO GRANDE BASIN

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08407500 Pecos River at Red Bluff, N. Mex.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15000	13700	11300	11000	10600	16400	20800	25100	22900	34900	23600	38600
2	14100	13500	11600	11100	10700	17200	20800	17200	24200	35800	23600	37500
3	13900	14100	14200	11100	10500	17200	22200	21400	23400	36300	24300	36600
4	14000	13000	11900	11000	11300	18200	24400	23500	24000	38800	24400	36000
5	14500	13000	11100	11100	11000	15500	25200	16600	26300	38700	25100	33900
6	14900	12900	10900	11000	10600	15300	24000	17600	26500	39100	26400	30300
7	14800	12100	11000	12100	10500	15900	24000	10700	26900	38700	28200	26800
8	15400	11900	10700	12100	11400	15900	22600	18600	27300	38500	28300	27700
9	15900	12100	10700	12100	12400	17200	22600	14700	28800	38000	32200	7080
10	15600	11400	10700	12100	11300	17300	23300	16500	28800	37600	32200	13200
11	15000	11400	10400	12200	10700	18700	22900	16500	30100	37900	33000	11800
12	15300	11300	10400	12500	10400	18700	22300	15900	30100	40100	34200	19400
13	16100	11200	10100	12500	10400	22900	24000	16400	30400	38600	34600	17600
14	14900	12000	10000	11600	10500	20600	23800	16400	30600	25500	35900	16700
15	14700	11000	9810	11600	11600	19900	24200	16400	31700	17900	36900	16100
16	15400	11100	10500	11900	11600	20600	24300	16200	33800	17700	37900	15600
17	15700	11900	10500	11800	11600	20200	24400	16200	34900	19900	38800	14700
18	17200	10900	10000	11800	12100	20200	25500	16900	35700	19900	38800	14300
19	17100	11000	10000	11800	11300	22500	26800	18000	37000	23000	38300	11100
20	16000	11100	9810	11800	11400	20100	26800	17800	36200	23100	38300	11200
21	15900	11000	10400	11600	11500	20100	25500	17900	36400	27900	38700	20200
22	15900	15100	10000	11700	11700	19200	25500	18600	36200	27800	39300	7970
23	15600	11400	10100	11400	14800	20800	24900	19000	35400	28800	40800	11700
24	15500	12000	10000	10700	17100	22300	26400	19200	34600	29100	44200	16200
25	14300	11000	10100	10700	17100	20600	26400	20100	33900	29700	44400	18200
26	15000	11000	10600	11100	17800	20600	26600	19900	33300	29900	44600	17500
27	14600	11200	10600	10700	18900	21600	27900	20300	33000	29900	42300	16700
28	14200	12100	10700	10900	18900	21600	29800	21600	32900	29900	42300	15900
29	15500	11900	10800	12300	17900	23200	30200	21600	32600	27900	42300	15500
30	15200	12200	10600	11700	---	23300	29300	23200	31200	28200	41900	15600
31	13800	---	10700	10800	---	22800	---	23800	---	23700	39600	---
MONTH	15200	12000	10700	11500	12700	19600	24900	18500	31000	30700	35300	19700

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.5	17.0	8.5	6.5	9.0	15.0	17.0	20.0	27.0	29.0	30.0	27.0
2	21.0	17.0	8.0	6.5	9.5	16.0	16.5	19.5	27.0	28.0	30.0	25.0
3	20.0	17.0	8.5	5.5	9.5	16.0	17.5	20.5	27.5	29.5	30.0	27.5
4	19.0	17.0	9.0	5.5	10.0	14.5	17.5	22.0	27.0	29.0	30.5	27.0
5	21.0	16.5	9.0	6.5	11.5	12.5	18.0	18.0	26.0	29.0	32.0	25.0
6	20.0	16.5	9.0	6.5	10.0	12.5	19.0	19.5	26.0	29.0	30.0	25.0
7	20.5	16.5	9.0	6.5	10.0	12.0	19.5	18.0	25.0	29.5	29.0	27.5
8	19.0	16.0	9.0	6.0	10.5	12.5	20.0	17.5	25.0	29.5	30.0	28.0
9	20.0	16.0	9.0	6.0	12.0	14.0	19.5	18.0	27.0	29.5	28.0	19.0
10	22.0	16.0	10.0	6.5	13.5	14.5	19.5	22.0	27.0	29.0	28.0	20.0
11	22.0	16.0	9.5	6.5	15.0	15.0	20.5	24.5	27.0	28.0	28.5	22.0
12	22.0	14.0	9.5	7.5	16.0	15.0	21.0	24.0	27.0	26.5	28.0	25.5
13	22.0	13.0	9.5	8.0	16.0	15.0	21.5	25.0	27.0	29.0	29.0	29.0
14	21.0	12.0	9.5	9.0	17.5	15.5	21.5	25.5	27.5	27.0	28.0	25.5
15	19.0	11.5	9.0	9.0	17.5	15.0	20.5	24.5	25.0	28.5	29.0	27.0
16	19.5	12.0	8.0	9.5	16.0	15.0	17.0	24.5	25.5	28.5	29.0	27.5
17	19.5	12.0	8.0	9.5	15.0	15.5	17.0	23.0	27.0	29.0	28.0	26.0
18	19.0	12.5	8.0	9.0	15.0	16.5	16.5	23.5	27.0	29.0	28.0	27.5
19	19.0	12.0	6.0	7.5	14.5	17.0	16.5	24.0	27.0	28.5	28.0	27.0
20	19.0	12.5	5.0	8.0	15.0	17.0	19.0	25.5	28.0	28.5	26.0	24.0
21	18.5	12.5	5.5	8.5	12.0	16.5	21.0	26.0	28.0	28.0	27.5	25.0
22	18.5	9.0	6.5	8.5	12.0	17.0	20.5	26.0	28.5	27.0	26.0	25.0
23	19.0	8.0	6.0	9.0	11.0	17.0	21.5	25.5	28.0	29.0	27.0	25.5
24	18.5	7.0	6.5	10.0	12.5	19.0	21.5	26.0	28.0	29.0	28.0	25.0
25	16.0	6.5	6.5	10.0	12.5	17.5	21.5	24.0	28.0	29.0	27.0	26.0
26	16.5	6.5	7.0	8.5	12.0	16.5	21.5	24.0	27.0	30.0	27.0	25.5
27	17.0	6.5	7.0	8.0	14.0	16.5	22.5	25.0	27.0	29.5	27.0	24.5
28	16.5	8.0	6.5	8.0	15.0	16.5	24.0	25.0	29.0	29.5	26.5	21.5
29	17.0	8.0	6.5	9.0	15.0	16.0	20.5	25.0	29.0	30.0	27.5	22.0
30	17.0	8.5	7.0	8.5	---	14.0	21.5	25.0	29.0	28.5	27.5	22.0
31	17.5	---	7.0	9.0	---	16.0	---	25.5	---	30.0	27.0	---
MONTH	19.5	12.5	8.0	8.0	13.0	15.5	20.0	23.0	27.0	29.0	28.5	25.0

RIO GRANDE BASIN

08408500 Delaware River near Red Bluff, N. Mex.

LOCATION.--Lat 32°01'23", long 104°03'15", in NE¼SW¼SE¼ sec. 23, T.26 S., R.28 E., Eddy County, near center of channel on downstream side of pier of bridge on U.S. Highway 285, 2.1 miles (3.4 km) northwest of the New Mexico-Texas State line, 3.6 miles (5.8 km) southwest of Red Bluff, 3.7 miles (6.0 km) upstream from mouth, and 14 miles (23 km) south of Malaga. Mouth at Pecos River mile 405.8 (652.9 km).

DRAINAGE AREA.--689 mi² (1,785 km²).

PERIOD OF RECORD.--April 1912 to September 1913, May 1914 to June 1915, October 1937 to current year. Published as "near Malaga, N. Mex." 1912-13 and as "near Angeles, Tex." 1914-15.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 2,900.66 ft (884.121 m) above mean sea level. Prior to May 1914, at site 3 miles (5 km) upstream at different datum. May 1914 to June 1915 at site 2.5 miles (4.0 km) downstream at different datum.

AVERAGE DISCHARGE.--39 years (1938-76), 13.4 ft³/s (0.379 m³/s), 0.26 in/yr (7 mm/yr), 9,710 acre-ft/yr (12.0 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 876 ft³/s (24.8 m³/s) July 12 (gage height, 4.54 ft or 1.384 m); no flow June 18 to July 11.

Period of record: Maximum discharge, 81,400 ft³/s (2,310 m³/s) Oct. 2, 1955 (gage height, 27.0 ft or 8.23 m, from floodmark), from rating curve extended above 1,500 ft³/s (42.5 m³/s) on basis of slope-area measurements at gage heights 8.65 ft (2.637 m), 12.84 ft (3.914 m), 18.00 ft (5.486 m), and 27.0 ft (8.23 m); no flow for many days most years.

Maximum stage since at least 1911, that of Oct. 2, 1955. Flood of June 27, 1938, reached a stage of 18.00 ft (5.486 m), from floodmark.

REMARKS.--Records fair. One small upstream diversion.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	2.0	3.8	4.0	4.9	4.1	3.4	8.6	.33	0	8.8	.28
2	1.1	2.3	4.0	4.2	4.8	4.0	3.4	6.0	.28	0	25	.33
3	1.2	2.1	4.0	4.2	5.0	4.0	3.4	3.8	2.1	0	176	.34
4	1.2	2.1	4.0	4.2	5.0	3.7	3.4	6.2	2.6	0	23	.29
5	1.3	2.1	4.0	4.2	5.0	3.6	3.3	7.0	28	0	7.2	.36
6	1.3	2.1	3.8	4.2	4.8	3.7	3.3	3.2	11	0	4.8	.58
7	1.3	2.1	3.8	4.1	4.7	3.9	3.3	9.6	4.0	0	3.5	.84
8	1.2	2.1	3.8	4.0	4.5	4.0	3.3	6.9	2.4	0	2.8	6.0
9	1.1	2.1	3.8	4.0	4.5	4.1	3.2	5.7	1.8	0	2.1	64
10	1.1	2.1	3.8	4.3	4.6	4.1	3.2	4.3	1.7	0	1.6	49
11	1.1	2.4	4.0	4.3	4.5	3.9	3.2	3.7	1.3	0	1.3	13
12	1.1	2.4	4.0	4.3	4.3	3.8	3.4	3.0	.88	200	1.1	5.9
13	1.1	2.5	4.0	4.2	4.2	3.6	5.2	2.6	.67	50	.91	4.0
14	1.0	2.7	3.8	4.2	4.2	3.6	4.5	2.4	.51	30	.83	3.0
15	.97	2.9	3.6	4.2	4.2	3.6	3.3	2.2	.28	11	.73	2.0
16	1.0	3.1	3.6	4.2	4.1	3.6	2.8	2.0	.12	7.7	.61	1.9
17	1.1	3.2	3.6	4.2	4.0	3.6	2.6	1.8	0	2.6	.54	1.7
18	1.1	3.3	3.8	4.3	4.0	3.8	2.5	1.7	0	1.4	.57	1.6
19	1.2	3.2	3.8	4.3	4.1	3.7	2.5	1.7	0	.95	.56	1.5
20	1.3	3.2	3.8	4.2	4.0	3.5	2.5	2.2	0	.66	.54	8.7
21	1.9	3.2	4.0	4.5	4.0	3.4	2.5	2.1	0	.45	.50	8.2
22	2.1	3.4	4.2	4.5	4.0	3.4	2.4	1.8	0	.39	.38	4.4
23	2.0	3.7	4.4	4.7	4.0	3.6	2.4	1.4	0	2.5	.34	2.0
24	1.6	3.9	4.7	4.7	4.2	3.8	2.3	1.1	0	1.8	.33	2.6
25	1.5	3.9	4.7	4.6	4.2	3.8	2.2	.97	0	.75	.35	2.1
26	1.7	3.8	4.4	4.7	4.2	3.5	2.1	.87	0	.41	.26	1.7
27	1.8	3.8	4.2	4.7	4.2	3.2	2.1	.78	0	.27	.25	1.4
28	1.8	3.9	4.2	4.7	4.2	3.3	1.9	.75	0	12	.31	1.4
29	1.9	4.1	4.2	5.0	4.2	3.3	2.0	.59	0	57	.34	1.4
30	1.9	3.8	4.2	5.0	4.0	3.2	1.9	.48	0	5.8	.30	1.5
31	2.0	---	4.0	5.0	---	3.5	---	.34	---	2.4	.27	---
TOTAL	43.07	87.5	124.0	135.9	126.6	114.2	90.6	95.78	57.97	388.08	266.12	192.02
MEAN	1.39	2.92	4.00	4.38	4.37	3.68	3.32	3.09	1.93	12.5	8.58	6.40
MAX	2.1	4.1	4.7	5.0	5.0	4.1	14	9.6	28	200	176	64
MIN	.97	2.0	3.6	4.0	4.0	3.2	1.9	.34	0	0	.25	.28
AC-FT	85	174	246	270	251	227	198	190	115	770	528	381

CAL YR 1975 TOTAL 1652.39 MEAN 4.53 MAX 323 MIN 0 AC-FT 3280
WTR YR 1976 TOTAL 1730.84 MEAN 4.73 MAX 200 MIN 0 AC-FT 3430

08410000 Red Bluff Reservoir near Orla, Tex.

LOCATION.--Lat 31°54'06", long 103°54'42", Reeves County, at right end of Red Bluff Dam on the Pecos River, 3 miles (5 km) upstream from Salt Creek, and 4.5 miles (7.2 km) north of Orla.

DRAINAGE AREA.--20,720 mi² (53,460 km²), approximately (contributing area).

PERIOD OF RECORD.--February 1937 to current year. Monthly contents only for some periods, published in WSP 1312.

GAGE.--Nonrecording gage read at irregular intervals. Datum of gage is 0.43 ft (0.131 m) below mean sea level.

EXTREMES (at 0800).--Current year: Maximum contents observed, 116,800 acre-ft (144 hm³) Oct. 1, 2 (gage height, 2,819.3 ft or 859.32 m); minimum observed, 59,300 acre-ft (73.1 hm³) Sept. 8 (gage height, 2,806.8 ft or 855.51 m).
Period of record: Maximum contents observed, 352,000 acre-ft (434 hm³) Sept. 27, 28, 1941 (gage height, 2,846.2 ft or 867.52 m), observed on nonrecording gage at service spillway (affected by variable drawdown due to flow through tainter gates); minimum observed, 11,080 acre-ft (13.7 hm³) May 13, 1948 (gage height, 2,781.4 ft or 847.77 m).

REMARKS.--The reservoir is formed by a rock-faced earthfill dam 9,200 ft (2,800 m) long. The dam was completed and storage began in September 1936. The dam and reservoir are owned and operated by the Red Bluff Water Power Control District. The water is used for power development and for irrigation from Mentone to Grandfalls. The uncontrolled spillway is a cut through natural ground located to the right of right end of dam and is 790 ft (241 m) wide. The controlled spillway is equipped with 12 tainter gates that are 25 by 15 ft (8 by 5 m) high. Inflow is partly regulated by storage in Alamogordo Reservoir, Lake McMillan, and Lake Avalon (total combined capacity, 154,400 acre-ft or 190 hm³), and by several small diversion dams that divert water for power or irrigation. The capacity curve is based on Geological Survey topographic map, survey of 1925. Data regarding the dam and reservoir are given in the following table:

	Gage height (feet)	Capacity (acre-feet)
Top of dam.....	2,856.0	-
Crest of spillway.....	2,845.0	340,000
Top of gates (top of conservation pool).....	2,842.0	310,000
Crest of spillway.....	2,827.0	166,500
Lowest gated outlet (invert).....	2,764.0	3,000

COOPERATION.--Gage-height records and capacity curve furnished by Red Bluff Water Power and Control District.

Capacity table (gage height, in feet, and contents, in acre-feet)

2,806.0	56,500	2,816.0	99,000
2,811.0	75,500	2,820.0	121,000

CONTENTS, IN ACRE-Feet, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	116800	112200	113400	115600	107800	109000	107800	101000	90500	84500	77300	63500
2	116800	112800	113400	115600	107800	109000	107800	100500	90500	83600	77300	62800
3	116200	112800	113400	115600	107800	109000	107800	100000	90000	83600	76850	62450
4	116200	112800	113400	115600	107800	109000	107800	99000	90000	82700	76850	61750
5	115600	112800	113400	115600	107800	109000	107800	99000	90000	82250	77300	61400
6	115600	112800	113400	115600	108400	109000	107800	98500	89500	81800	77300	60700
7	115600	112800	113400	115600	108400	109000	107800	98000	89500	80900	77300	60000
8	115600	112800	113400	115600	108400	109000	107800	98000	89500	80450	76850	59300
9	115600	112800	113400	115600	108400	109000	107800	97500	89000	80000	76850	63500
10	115600	112800	113400	115600	108400	109000	107800	96500	89000	79100	76400	64300
11	115600	112800	113400	115600	109000	109000	107800	96000	89000	78200	75950	64700
12	114400	112800	113400	115600	109000	108400	107800	95500	89000	79550	75950	65100
13	114400	112800	113900	116200	109000	108400	107300	95000	88550	79550	75950	65100
14	114400	112800	113900	116200	109000	108400	107800	95000	88550	79100	75100	65100
15	113900	112800	113900	116200	109000	109000	107800	94500	88100	79100	74700	65500
16	113900	113400	113900	116200	109000	109000	107300	94500	88100	79100	73900	65500
17	113900	113400	113900	115600	109000	108400	107300	94500	87650	79100	73100	65500
18	113400	113400	113900	115000	109000	108400	107300	94000	87650	78650	72700	65500
19	113400	113400	113900	114400	109000	108400	107300	94000	87200	78650	71900	65500
20	113400	113400	113900	113900	109500	108400	107300	94000	87200	78650	71500	66300
21	112900	113400	114400	113900	109500	108400	107300	94000	86750	78200	70700	66300
22	113400	113400	114400	112900	109000	108400	106800	94000	86300	78200	70300	66700
23	112900	113400	114400	112200	109000	108400	106200	94000	86300	78200	69500	66700
24	112900	113400	114400	111700	109000	108400	105600	93500	86300	77750	69100	66700
25	112800	113400	115000	111200	109000	108400	105100	93500	85850	77750	68300	66700
26	112200	113400	115000	110600	109000	107800	104600	93000	85400	77750	67500	66700
27	112200	113400	115000	110000	109000	107800	103000	92500	85400	77300	66700	66700
28	112200	113400	115000	109500	109000	107800	103000	91500	85400	77300	66300	66700
29	112200	113400	115000	109000	109000	107800	102000	91500	84950	77300	65500	66700
30	112200	113400	115600	108400	---	107800	101500	91000	84950	77750	64700	66700
31	112200	---	115600	107800	---	107800	---	90500	---	77300	63900	---
(†)	2818.5	2818.7	2819.1	2817.7	2817.9	2817.7	2816.5	2814.3	2813.1	2811.4	2808.1	2808.8
(*)	-4600	+1200	+2200	-7800	+1200	-1200	-6300	-11000	-5550	-7650	-13400	+2800
MAX	116800	113400	115600	116200	109500	109000	107800	101000	90500	84500	77300	66700
MIN	112200	112200	113400	107800	107800	107800	101500	90500	84950	77300	63900	59300

CAL YR 1975..... * -50200

MAX 177900

MIN 112200

WTR YR 1976..... * -50100

MAX 116800

MIN 59300

† Gage height, in feet, at end of month.
* Change in contents, in acre-feet.

RIO GRANDE BASIN

08412500 Pecos River near Orla, Tex.

LOCATION.--Lat 31°52'21", long 103°49'52", Reeves County, on right bank at bridge on Farm Road 652, 5.5 miles (8.8 km) downstream from Salt Creek (Screw Bean Arroyo), 5.9 miles (9.5 km) northeast of Orla, and 8.5 miles (13.7 km) downstream from Red Bluff Reservoir.

DRAINAGE AREA.--21,210 mi² (54,930 km²), approximately (contributing area).

PERIOD OF RECORD.--Discharge: May 1937 to current year.

Water quality: Chemical analyses: July 1937 to current year. Water temperatures: March 1953 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,730.86 ft (832.366 m) above mean sea level. Prior to Nov. 16, 1969, at site 6.9 miles (11.1 km) downstream at datum 12.81 ft (3.904 m) lower.

AVERAGE DISCHARGE.--39 years, 178 ft³/s (5.041 m³/s), 129,000 acre-ft/yr (159 hm³/yr).

EXTREMES.--Discharge: Current year: Maximum discharge, 3,070 ft³/s (86.9 m³/s) Sept. 9 (gage height, 16.39 ft or 4.996 m); minimum, 7.5 ft³/s (0.21 m³/s) Apr. 18, 19.

Period of record: Maximum discharge, 23,700 ft³/s (671 m³/s) Sept. 29, 1941 (gage height, 20.74 ft or 6.322 m, site and datum then in use); no flow at times in 1946 and 1965.

Water quality: Current year: Maximum daily specific conductance, 23,600 micromhos Mar. 27; minimum daily, 2,100 micromhos Sept. 9. Maximum water temperatures, 25.5°C Aug. 6, 7; minimum, 3.0°C Jan. 8, 9.

Period of record: Maximum daily specific conductance, 29,100 micromhos Sept. 2, 1969, July 22, 1972; minimum daily, 1,610 micromhos June 2, 1948. Maximum water temperatures (1953-61, 1968-76), 28.5°C Aug. 11, 1974; minimum, 0.5°C Jan. 6, 1971, Jan. 11, 1973.

REMARKS.--Discharge records fair. Most of flow is release from storage in Red Bluff Reservoir (station 08410000). Occasional runoff from draws between dam and station. Many diversions above Red Bluff Reservoir for irrigation.

REVISIONS (WATER YEARS).--WSP 928: 1937.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	91	25	13	14	21	12	12	299	54	263	51	286
2	91	20	12	14	15	12	12	295	54	153	50	288
3	90	20	11	13	15	12	12	291	55	267	48	288
4	91	18	12	13	14	12	12	290	93	214	46	288
5	92	17	12	13	14	11	12	291	84	262	43	288
6	90	18	12	13	14	11	12	288	61	263	45	288
7	89	18	12	12	14	11	12	319	56	263	48	288
8	90	18	12	12	14	11	11	309	54	259	48	290
9	90	18	12	12	14	11	11	293	53	259	48	2000
10	90	16	11	12	13	12	10	290	51	262	47	1300
11	85	17	11	12	13	13	10	288	51	278	47	88
12	82	17	11	12	13	11	10	285	54	291	47	43
13	79	17	12	12	13	12	11	185	53	242	73	35
14	78	18	12	12	13	12	10	47	50	65	280	83
15	79	19	12	13	13	11	9.7	40	53	53	288	37
16	79	18	12	94	13	11	8.8	44	60	58	260	19
17	78	15	12	388	12	11	8.5	45	60	56	287	15
18	75	15	12	392	12	11	8.2	44	60	54	288	21
19	74	17	12	392	12	12	8.1	44	60	50	288	20
20	75	16	12	392	13	12	10	45	61	49	288	18
21	76	16	12	390	12	12	21	45	64	48	287	23
22	82	17	12	390	12	12	173	44	64	48	284	20
23	78	16	12	390	12	11	220	44	64	50	288	22
24	77	15	14	390	12	12	278	45	63	61	287	23
25	76	13	14	388	12	12	280	71	63	50	288	23
26	49	13	15	388	12	14	255	261	64	48	288	27
27	44	13	14	388	12	13	284	258	64	48	287	26
28	41	13	14	388	12	12	282	262	64	48	287	24
29	31	13	14	388	13	12	282	62	64	55	287	21
30	29	13	14	388	---	12	280	55	128	57	286	19
31	29	---	14	325	---	12	---	54	---	52	286	---
TOTAL	2300	499	386	6060	383	365	2565.3	5233	1879	4226	5775	6211
MEAN	74.2	16.6	12.5	195	13.2	11.8	85.5	169	62.6	136	186	207
MAX	92	25	15	392	20	14	284	319	128	291	288	2000
MIN	29	13	11	12	12	11	8.1	40	50	48	43	15
AC-FT	4560	990	766	12020	760	724	5090	10380	3730	8380	11450	12320
CAL YR 1975	TOTAL	32541.0	MEAN 89.2	MAX 479	MIN 11	AC-FT 64550						
WTR YR 1976	TOTAL	35882.3	MEAN 98.0	MAX 2000	MIN 8.1	AC-FT 71170						

RIO GRANDE BASIN

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08412500 Pecos River near Orla, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)
OCT 23...	1040	77	10200	7.4	16.5	1700	1600	430	160	1700
NOV 17...	0730	11	21000	7.8	9.5	3300	3100	310	300	4000
DEC 04...	1050	11	20900	7.8	8.0	3400	3200	340	310	3900
JAN 25...	0715	325	8410	7.7	7.0	1600	1500	410	140	1400
FEB 12...	0930	14	20600	7.6	15.0	3200	3100	300	300	3900
MAR 25...	1015	12	21800	7.5	21.0	3500	3400	330	350	4100
APR 28...	0840	280	8940	7.8	16.5	1700	1500	420	150	1500
MAY 06...	1045	288	8980	7.4	17.0	1700	1500	400	160	1500
JUN 10...	1100	52	10000	7.6	22.0	1800	1700	470	160	1700
JUL 22...	1030	58	11200	7.5	22.0	1800	1700	440	180	1900
AUG 31...	1030	287	10300	7.5	23.0	1800	1700	460	160	1700
SEP 25...	0815	18	14800	7.9	21.0	2800	2700	730	240	2500

DATE	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RINE (F) (MG/L)	DIS- SOLVED SILICA (SI02) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
OCT 23...	18	42	140	0	1400	2600	.9	11	6410
NOV 17...	30	40	158	0	2800	6500	--	6.5	14500
DEC 04...	29	39	168	0	2900	6300	--	8.9	14400
JAN 25...	15	42	143	0	1300	2200	--	10	5570
FEB 12...	30	38	158	0	2800	6500	--	4.9	14400
MAR 25...	30	42	138	0	2900	6700	--	3.5	15000
APR 28...	16	46	145	0	1400	2300	--	9.0	5900
MAY 06...	16	45	145	0	1500	2400	--	9.0	6090
JUN 10...	17	50	156	0	1700	2800	--	9.9	6970
JUL 22...	19	50	136	0	1600	3000	--	8.4	7250
AUG 31...	17	40	126	0	1500	2700	--	12	6630
SEP 25...	21	41	164	0	2200	4100	--	11	9900

RIO GRANDE BASIN

08412500 Pecos River near Orla, Tex.--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

MONTH	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA+MG) (MG/L)
OCT. 1975.....	2300	9260	6170	38300	2390	14800	1540	9560	1810
NOV. 1975.....	499	21100	14600	19700	6500	8760	2820	3810	****
DEC. 1975.....	386	21300	14800	15400	6560	6840	2840	2960	****
JAN. 1976.....	6060	8780	5880	96200	2250	36700	1490	24300	1740
FEB. 1976.....	370	19700	13600	13600	6000	6000	2680	2670	****
MAR. 1976.....	365	22200	15400	15200	6890	6790	2940	2890	****
APR. 1976.....	2565.3	9990	6710	46500	2650	18400	1620	11200	1900
MAY 1976.....	5233	9560	6360	89900	2470	34900	1570	22200	1850
JUNE 1976.....	1879	10400	6910	35100	2740	13900	1660	8440	****
JULY 1976.....	4226	10200	6810	77700	2690	30700	1650	18800	****
AUG. 1976.....	5775	10200	6760	105000	2660	41500	1640	25500	****
SEPT 1976.....	6211	7140	4780	80200	1730	29000	1310	21900	1530
TOTAL	35869.29	**	**	633000	**	248000	**	154000	**
WTD.AVG.	98.27	9760	6500	**	2600	**	1600	**	1900

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C)* WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8760	19600	21100	21700	9770	21700	22400	9530	10000	10000	10200	10500
2	8400	20200	21300	21500	16800	21800	22100	9350	10000	10000	10200	10500
3	8540	20600	20900	21400	18400	21800	22600	9060	10000	9810	9900	10500
4	8470	21700	20900	21100	19100	22000	22900	9020	14100	9620	10000	10600
5	8540	22200	20900	21100	19400	22000	22700	9020	13600	9810	10100	10600
6	8540	21400	21100	21300	19800	21700	22700	8980	10200	9710	10500	10600
7	8540	21000	21100	21600	19800	21500	22800	9020	10000	9810	10700	10500
8	8580	21100	21100	21600	19800	21400	23000	9620	10000	9710	10600	10500
9	8580	21100	21000	21700	20000	21400	23000	9180	10000	9710	10700	2100
10	8650	20900	21500	21100	20400	21600	23000	9530	10100	9810	10800	5740
11	8580	20800	21600	20900	20400	22200	22700	9530	10000	9710	10800	10300
12	8770	20900	21600	21300	20600	22400	22400	9580	10000	9710	10700	12700
13	8770	20900	21500	21300	20400	22100	22300	9440	10300	10300	10600	14100
14	8690	21200	21400	21100	20400	22800	22700	12000	10100	10500	10000	13800
15	8580	21100	21300	21300	20800	22600	22800	12200	10000	12000	9950	12300
16	8510	21000	21400	10000	20800	22400	23100	12500	10000	14600	9950	12500
17	8580	21000	21400	8360	20800	22300	22300	11800	10000	13700	9950	14700
18	8770	21200	21100	8290	20800	22600	22700	11900	9900	13200	10000	15900
19	8840	21200	21400	8360	20600	22200	22600	11800	10000	11400	10000	15900
20	8880	21600	21300	8160	20800	22200	22600	11700	10000	12300	10100	12100
21	8960	21600	21300	8180	21100	22200	12000	11800	9900	11900	10200	16200
22	8840	21300	21300	8360	21200	22300	8880	11900	10100	11200	10100	11900
23	10200	21600	21300	8360	21300	22300	8770	11700	10000	18500	10100	13600
24	10400	21600	21300	8360	21300	21600	8850	11300	10100	10400	10200	13500
25	9540	21400	21400	8360	21200	21800	8860	10700	10000	11300	10200	15000
26	10000	21600	21800	8360	21300	22000	8870	9230	10000	11000	10200	15300
27	12300	21400	22000	8380	21400	23600	8870	9140	10000	10600	10300	16700
28	13200	21700	21400	8400	21700	23300	8880	9140	10000	10600	10300	12900
29	13000	21200	20900	8410	21600	23000	8880	10200	10200	12000	10300	19900
30	17000	21400	21100	8430	---	22400	8620	10300	10200	6130	10300	20300
31	18600	---	21300	8500	---	22000	---	10200	---	9900	10300	---
MONTH	9830	21200	21300	14700	20100	22200	18200	10300	10300	10900	10300	12700

RIO GRANDE BASIN

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08412500 Pecos River near Orla, Tex.--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.5	17.0	6.5	7.0	5.0	14.0	13.5	16.5	19.5	---	24.5	23.0
2	18.0	16.0	7.0	---	6.5	13.5	14.5	17.0	21.0	---	24.5	23.5
3	16.5	15.5	8.0	5.5	7.0	14.5	15.0	16.5	21.0	---	24.5	24.5
4	17.0	15.0	8.5	4.0	9.5	16.0	18.0	17.0	20.0	---	25.0	23.5
5	17.0	15.0	8.5	3.5	11.0	10.0	16.5	16.0	21.0	---	25.0	23.5
6	17.0	14.5	9.5	5.0	10.0	10.0	19.0	16.0	21.0	---	25.5	23.5
7	17.0	15.0	7.0	4.5	8.5	11.0	19.5	16.5	21.0	---	25.5	23.5
8	17.0	13.5	6.0	3.0	8.5	10.0	18.0	16.0	23.5	---	24.0	23.0
9	17.0	14.5	7.0	3.0	10.0	12.0	19.0	17.0	21.0	24.5	23.5	20.0
10	18.5	13.5	7.0	4.0	12.0	13.5	19.5	17.0	24.5	23.5	24.0	19.5
11	17.0	12.0	8.5	5.0	14.5	14.5	21.0	18.0	22.0	23.5	24.5	19.5
12	18.0	12.0	8.5	4.5	15.0	13.0	20.0	17.0	21.5	24.0	24.0	22.0
13	18.5	9.5	10.0	6.0	15.5	12.0	20.5	18.0	22.0	23.5	23.5	23.5
14	18.5	9.0	10.0	5.5	15.0	10.5	21.0	18.5	22.0	23.5	24.0	22.0
15	17.0	9.5	9.0	6.0	13.5	10.0	20.0	19.0	20.5	24.0	24.0	23.5
16	17.0	9.5	7.0	7.0	12.0	10.5	14.5	20.0	20.0	24.5	23.5	23.5
17	16.0	9.5	6.5	5.5	12.0	11.5	16.0	19.5	23.5	24.5	24.0	24.5
18	15.0	10.5	6.0	6.0	10.0	13.5	14.5	19.0	21.0	25.0	24.0	23.5
19	16.0	12.0	6.0	6.0	12.0	14.5	15.0	19.0	22.0	24.0	24.0	24.5
20	16.0	10.0	5.0	6.0	11.0	15.0	16.0	19.5	23.5	25.0	24.5	21.0
21	17.0	8.5	6.0	4.5	9.5	14.5	24.0	21.0	23.0	24.5	24.0	20.0
22	17.0	6.0	6.5	5.5	---	13.5	17.0	20.0	23.0	23.5	23.5	21.0
23	17.0	5.0	9.5	7.0	10.0	15.0	16.0	20.0	23.5	22.0	23.0	25.0
24	17.0	6.0	7.0	8.0	8.5	12.0	15.0	20.0	21.0	23.0	23.0	23.5
25	16.0	6.5	5.5	7.0	10.0	17.0	16.0	20.0	20.0	23.5	22.0	21.0
26	13.5	5.5	6.0	6.5	10.0	16.5	15.5	18.5	19.5	24.5	22.0	23.0
27	15.0	5.0	6.0	4.0	10.5	15.0	16.0	19.5	21.0	24.5	22.0	22.0
28	14.5	7.0	8.5	5.0	12.0	14.5	16.5	18.5	21.0	24.5	23.0	21.0
29	15.0	9.0	6.0	5.0	13.5	15.0	16.5	19.5	21.5	24.5	23.5	20.0
30	15.0	8.5	5.0	6.0	---	14.5	15.5	19.5	---	23.5	23.5	18.5
31	15.0	---	6.0	7.0	---	13.0	---	18.5	---	23.5	22.0	---
MONTH	16.5	10.5	7.0	5.5	11.0	13.0	17.5	18.5	21.5	---	24.0	22.5

RIO GRANDE BASIN

08414000 Pecos River near Mentone, Tex.
(Reconnaissance partial-record station)

LOCATION.--Lat 31°40'07", long 103°37'34", Reeves-Loving County line, at bridge on State Highway 302 and 3.0 miles (4.8 km) southwest of Mentone.

DRAINAGE AREA.--21,650 mi² (56,070 km²), approximately (contributing area).

PERIOD OF RECORD.--Occasional discharge measurements: September to December 1968, October 1973 to current year. Operated as a daily discharge station February 1922 to July 1926, December 1968 to June 1973. Occasional water-quality data: September 1968 to current year.

DISCHARGE AND WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)
OCT. 23...	1200	95	8940	7.5	18.0	1600	1500	400	140
DEC. 04...	1220	11	21300	7.8	8.0	3400	3200	840	310
JAN. 06...	1100	12	21500	7.8	4.5	3400	3200	820	320
FEB. 12...	1045	14	17300	7.7	14.0	2800	2700	700	250
MAR. 25...	1130	9.4	23100	7.6	21.0	3800	3700	960	350
JUNE 10...	1240	48	10300	7.5	28.0	1900	1800	500	160
JULY 22...	1225	50	13200	7.3	25.0	2100	2000	510	200
AUG. 31...	1220	333	10300	7.4	23.0	1900	1800	460	180
		SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L)
OCT. 23...	1500	16	36	132	0	1300	2200	9.2	5650
DEC. 04...	4200	31	39	157	0	2900	6700	4.5	15100
JAN. 06...	4000	30	42	142	0	3000	6400	4.4	14700
FEB. 12...	3200	26	40	134	0	2400	5000	2.6	11700
MAR. 25...	4500	32	41	110	0	3000	7500	.1	16400
JUNE 10...	1700	17	45	94	0	1600	2900	4.7	6960
JULY 22...	2300	22	55	106	0	2000	3600	7.2	8720
AUG. 31...	1700	17	70	130	0	1600	2700	12	6790

08414500 Reeves County Water Improvement District No. 2 canal near Mentone, Tex.

LOCATION.--Lat 31°37'57", long 103°34'30", Loving County, on right bank 173 ft (53 m) downstream from headgate of canal (at Pecos River), 5.3 miles (8.5 km) south of Mentone, and 15 miles (24 km) northwest of Pecos.

PERIOD OF RECORD.--February 1922 to July 1925, August 1939 to May 1941, March 1942 to September 1957, and March 1964 to current year. Records from August 1939 to October 1940, not equivalent because diversion was not included. Published as "Farmers Independent Canal near Porterville" 1922-25.

GAGE.--Water-stage recorder. Concrete weir since Mar. 1, 1964. Altitude of gage is 2,640 ft (805 m), from topographic map. Prior to July 22, 1925, at site 250 ft (76 m) downstream at different datum. Mar. 10, 1939, to Oct. 4, 1940, at site 2.5 miles (4.0 km) downstream at different datum. Oct. 5, 1940, to Feb. 19, 1943, at site 123 ft (37 m) upstream at datum 1.10 ft (0.335 m) higher. Feb. 20, 1943, to Mar. 1, 1954, at site 123 ft (37 m) upstream at present datum.

AVERAGE DISCHARGE.--30 years (1922-24, 1939-40, 1942-57, 1964-76), 9.38 ft³/s (0.266 m³/s), 6,800 acre-ft/yr (8.38 hm³/yr).

EXTREMES.--Period of record: Maximum daily discharge, 160 ft³/s (4.53 m³/s) June 14, 1922; no flow at times each year.

REMARKS.--Records good. Local runoff is deleted from daily discharge record. Water is diverted from right bank of Pecos River and is used for irrigation between Mentone and Pecos.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		.02	.01			.02	0	12	11	.01	26	5.9
2		0	.01			.02	0	5.9	16	5.7	26	2.5
3		0	.01			.07	0	5.5	16	20	25	.14
4		0	.01			.03	0	6.6	16	24	24	.14
5		0	0			.01	0	7.9	5.0	22	24	.14
6	1.2	0	0		0	0	0	1.9	3.4	20	13	.14
7	4.2	0	0		0	0	0	12	13	14	.56	.14
8	9.2	0	0		0	.02	0	8.4	.07	12	.34	.14
9	12	0	0		0	.02	0	.07	1.3	6.4	5.7	.07
10	15	0	0		0	.02	0	.07	12	5.8	4.8	.07
11	16	0	0		0	.02	0	.07	14	5.3	2.5	8.2
12	9.4	0	0		0	.02	0	.04	15	10	1.0	14
13	4.1	0	0		0	.01	0	.11	20	6.9	.85	11
14	6.6	2.3	0		0	0	0	.10	23	9.2	.85	9.3
15	5.4	0.1	0		0	0	0	.07	22	7.5	.70	8.8
16	12	0.1	0		0	0	0	.07	9.8	5.9	.70	8.8
17	9.4	4.1	0		0	0	0	.06	9.8	3.8	.56	4.8
18	9.9	1.2	0		0	0	0	.02	7.5	1.7	.56	.07
19	9.3	1.6	0		0	0	0	0	5.1	1.0	12	.07
20	6.0	.73	0		0	0	0	0	.17	.54	20	.02
21	4.2	.56	0		0	0	0	0	.12	.37	20	0
22	5.6	.44	0		0	0	0	0	.05	.26	19	0
23	4.3	.44	0		0	0	0	0	.02	.24	13	0
24	0.4	.34	0		0	0	13	0	.02	.24	9.3	0
25	4.1	.24	0		0	0	22	0	.02	.30	8.4	0
26	1.2	.14	0		0	0	20	0	.02	.25	7.9	0
27	1.0	.14	0		0	0	20	.02	.02	.18	7.5	0
28	.06	.07	0		.01	0	25	.02	.02	.14	6.6	0
29	.34	.02	0		.02	0	25	0	.02	1.6	6.6	0
30	.14	.01	0		---	0	22	0	.02	10	6.6	0
31	.02	---	0		---	0	---	0	---	9.1	6.2	---
TOTAL	167.15	22.32	.04	0	.03	.26	147	67.97	220.48	204.43	300.22	74.44
MEAN	5.39	.74	.001	0	.001	.004	4.90	2.19	7.35	6.59	9.68	2.48
MAX	15	5.1	.01	0	.02	.07	25	12	23	24	26	14
MIN	0	0	0	0	0	0	0	0	.02	.01	.34	0
AC-FT	332	44	.08	0	.06	.5	292	135	437	405	595	148

CAL YR 1975 TOTAL 1341.68 MEAN 3.68 MAX 24 MIN 0 AC-FT 2660
WTR YR 1976 TOTAL 1264.35 MEAN 3.29 MAX 26 MIN 0 AC-FT 2390

RIO GRANDE BASIN

08415000 Ward County Water Improvement District No. 3 canal near Barstow, Tex.

LOCATION.--Lat 31°34'28", long 103°30'04", Ward County, on left bank 96 ft (29 m) upstream from concrete culvert that crosses canal, 2 miles (3 km) downstream from headgate of canal, and 10.5 miles (16.9 km) northwest of Barstow.

PERIOD OF RECORD.--August 1939 to May 1941, August to September 1941, December 1941 to September 1957, and March 1964 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,600 ft (792 m), from topographic map. Prior to Dec. 14, 1940, at site 1.75 miles (2.82 km) upstream at datum 2.98 ft (0.908 m) higher. Dec. 14, 1940, to May 26, 1941, at site 1.4 miles (2.3 km) upstream at datum 1.72 ft (0.524 m) higher.

AVERAGE DISCHARGE.--28 years (1939-40, 1942-57, 1964-76), 9.26 ft³/s (0.262 m³/s), 6,710 acre-ft/yr (8.27 hm³/yr).

EXTREMES.--Period of record: Maximum daily discharge, 156 ft³/s (4.42 m³/s) Oct. 24, 1969; no flow at times each year.

REMARKS.--Records good. Local runoff is deleted from daily discharge record. Water is diverted from the left bank of Pecos River and is used for irrigation in the vicinity of Barstow.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	7.6	9.1	13	11	7.0	1.6	31	.04	24	45	1.6
2	31	6.2	9.1	12	5.9	7.1	1.6	31	.04	24	41	1.2
3	31	2.6	9.1	13	.29	7.5	1.6	31	.02	19	43	.98
4	31	1.1	9.1	14	.63	7.3	1.5	31	.02	19	45	1.1
5	32	.55	8.4	14	0	6.6	1.5	30	.04	19	46	1.5
6	32	6.3	7.6	13	0	5.9	1.6	23	.02	19	44	2.0
7	32	8.4	7.6	11	0	5.5	1.7	24	.01	19	49	.85
8	32	7.6	8.4	11	0	5.7	2.2	25	2.9	19	53	1.2
9	30	6.4	8.4	12	0	5.7	2.5	25	3.6	19	55	2.4
10	28	7.6	8.4	11	0	5.7	4.7	24	3.1	19	54	2.8
11	27	7.6	7.6	12	0	6.1	2.1	1.6	2.7	19	49	4.8
12	31	7.6	9.1	17	0	5.8	1.5	.70	2.1	22	39	27
13	30	7.6	14	16	0	5.7	1.3	.11	1.5	23	40	8.7
14	31	7.6	14	14	0	5.9	1.1	.05	1.2	14	42	1.4
15	32	7.6	13	13	0	5.5	.59	.02	.78	17	50	12
16	33	6.9	12	12	0	5.4	.49	.01	3.9	14	60	4.1
17	32	6.9	12	11	0	5.5	2.6	24	18	14	60	36
18	32	6.2	11	26	0	5.5	6.6	30	29	14	54	36
19	32	7.6	10	13	0	3.9	4.8	30	27	14	19	34
20	30	8.4	10	13	5.3	2.0	4.3	29	27	14	21	36
21	31	10	10	14	7.1	1.6	4.3	30	26	14	19	51
22	33	7.6	11	13	6.8	1.6	4.0	30	25	17	18	30
23	34	8.4	11	14	6.9	1.6	13	30	24	17	17	20
24	36	8.4	13	14	6.9	1.6	44	29	24	18	15	16
25	33	8.4	14	13	6.9	1.5	26	29	24	20	12	14
26	35	8.4	14	12	6.4	1.3	24	30	24	28	9.1	14
27	37	8.4	14	13	6.2	1.3	23	33	24	40	7.3	13
28	23	8.4	14	13	6.7	1.4	23	33	24	40	8.7	8.4
29	12	9.1	15	13	7.5	1.3	27	34	24	41	3.0	6.9
30	10	9.1	14	12	---	1.3	30	8.7	24	39	1.7	5.0
31	9.1	---	14	12	---	1.4	---	.24	---	51	.94	---
TOTAL	507.1	216.95	341.9	414	83.92	131.1	264.18	677.47	366.01	694	1020.74	462.33
MEAN	29.3	7.23	11.0	13.4	2.89	4.23	8.31	21.9	12.2	22.4	32.9	15.4
MAX	37	10	15	26	11	7.5	44	34	29	51	60	51
MIN	9.1	.55	7.6	11	0	1.3	.49	.01	.01	14	.94	.85
AC-FT	1800	436	678	821	166	260	524	1340	726	1380	2020	917

CAL YR 1975 TOTAL 6449.19 MEAN 17.7 MAX 63 MIN 0 AC-FT 12790
WTR YR 1976 TOTAL 5579.70 MEAN 15.2 MAX 60 MIN 0 AC-FT 11070

08418000 Ward County Irrigation District No. 1 canal near Barstow, Tex.

LOCATION.--Lat 31°32'26", Long 103°29'42", Ward County, on left bank 0.6 mile (1.0 km) downstream from headgate of canal and 7.9 miles (12.7 km) northwest of Barstow.

PERIOD OF RECORD.--February 1922 to September 1925 (published as "Barstow Canal near Barstow"), August 1939 to May 1941, October 1941 to September 1957, and March 1964 to current year.

GAGE.--Water-stage recorder. Concrete weir since Nov. 20, 1968. Altitude of gage is 2,600 ft (792 m), from topographic map. Prior to Aug. 15, 1939, at site about 3,000 ft (914 m) upstream at different datum.

AVERAGE DISCHARGE.--32 days (1922-25, 1939-40, 1941-57, 1964-76), 30.9 ft³/s (0.875 m³/s), 22,390 acre-ft/yr (27.6 hm³/yr).

EXTREMES.--Period of record: Maximum daily discharge, 385 ft³/s (10.9 m³/s) Aug. 30, 1923; no flow at times each year.

REMARKS.--Records good. Local runoff is deleted from daily discharge record. Water is diverted from left bank of Pecos River and is used for irrigation in the vicinity of Barstow.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	22	0	7.0	1.0	0	0	21	37	31	12	55
2	42	14	0	8.5	0.8	0	0	16	34	39	11	54
3	44	17	0	8.5	0.8	0	0	22	37	44	11	53
4	45	17	0	8.5	1.0	0	0	26	41	43	7.3	49
5	44	16	0	8.5	0	0	0	32	39	45	6.1	47
6	44	13	0	7.9	0	0	0	33	35	47	4.7	46
7	45	11	4.2	7.4	0	0	0	29	34	45	1.2	37
8	47	11	4.9	7.0	0	0	0	23	29	45	1.1	26
9	45	9.9	3.8	7.0	0	0	0	22	29	46	13	8.4
10	42	9.4	3.8	7.1	0	0	0	19	33	46	18	35
11	40	9.0	3.4	7.4	0	0	0	14	32	46	16	80
12	41	8.5	3.4	5.5	0	0	0	24	31	37	22	81
13	39	7.1	3.4	6.1	0	0	0	27	31	18	25	77
14	39	6.0	3.4	7.3	0	0	0	27	30	19	26	77
15	39	2.9	3.9	7.3	0	0	0	27	27	24	32	60
16	34	0.20	3.0	7.5	0	0	0	27	25	22	40	69
17	34	0.21	3.0	7.5	0	0	0	23	23	25	52	48
18	37	0	3.0	8.3	0	0	0	17	18	24	47	33
19	37	0	3.0	11	0	0	0	18	13	25	33	26
20	37	0	3.0	8.8	0	0	0	18	14	25	35	27
21	37	0	3.0	8.4	0	0	0	18	22	28	35	73
22	34	0	3.0	7.3	0	0	0	16	25	28	35	113
23	30	0	3.0	5.2	0	0	0	15	26	24	40	69
24	32	0	4.2	6.0	0	19	16	29	28	51	48	
25	34	0	7.0	5.7	0	28	15	29	21	51	39	
26	28	0	7.5	8.7	0	34	14	28	16	49	36	
27	25	0	8.0	7.5	0	33	24	24	14	51	50	
28	25	0	8.5	6.4	0	32	35	30	14	53	32	
29	29	0	8.5	8.4	0	31	34	24	15	53	27	
30	25	0	8.5	8.0	---	31	36	29	15	52	25	
31	23	---	8.0	1.3	---	---	---	36	---	13	53	---
TOTAL	1151	181.18	117.5	187.6	0.22	0	208	724	879	918	936.4	1500.4
MEAN	37.1	6.04	3.79	6.05	0.08	0	6.93	23.4	29.0	29.6	30.2	50.0
MAX	47	22	8.5	11	1.0	0	34	36	41	47	53	113
MIN	23	0	0	1.3	0	0	0	14	13	13	1.1	8.4
AC-FT	2241	359	233	372	4	0	413	1440	1730	1820	1860	2980
CAL YR 1975	TOTAL	6819.12	MEAN	18.7	MAX	48	MIN	0	AC-FT	13530		
WTR YR 1976	TOTAL	6794.22	MEAN	18.6	MAX	113	MIN	0	AC-FT	13480		

RIO GRANDE BASIN

08431700 Limpia Creek above Fort Davis, Tex.
(Hydrologic bench-mark station)

LOCATION.--Lat 30°36'55", long 104°00'10", Jeff Davis County, on left bank about 600 ft (180 m) upstream from bridge (revised) on State Highway 118, about 2,000 ft (610 m) upstream from Jones Creek, and 6.8 miles (10.9 km) west of Fort Davis.

DRAINAGE AREA.--52.4 mi² (135.7 km²).

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is about 5,200 ft (1,580 m) above mean sea level.

AVERAGE DISCHARGE.--11 years, 2.77 ft³/s (0.0784 m³/s), 0.72 in/yr (18 mm/yr), 2,010 acre-ft/yr (2.48 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 615 ft³/s (17.4 m³/s) July 23 (gage height, 5.39 ft or 1.643 m); no flow most of year.

Period of record: Maximum discharge, 2,650 ft³/s (75.0 m³/s) Sept. 21, 1974 (gage height, 8.15 ft or 2.484 m); no flow at times each year.

Maximum stage since at least 1925, about 10 ft (3.0 m) in 1939, from information by local resident.

REMARKS.--Records good. No diversion above station. Recording rain gage located at station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.19	.01								0	68	1.3
2	.24	.01								0	30	1.3
3	.29	0								0	9.1	1.3
4	.29	0								0	5.5	1.8
5	.29	0								0	4.3	1.8
6	.29	0								0	3.4	2.7
7	.29	0								0	2.8	15
8	.29	0								0	2.3	6.4
9	.29	0								0	2.1	3.7
10	.24	0								0	1.9	4.5
11	.24	0								9.3	1.7	2.8
12	.19	0								4.4	1.5	2.1
13	.19	0								.91	1.5	1.7
14	.19	0								31	1.3	1.7
15	.15	0								43	1.3	1.7
16	.15	0								14	1.3	1.5
17	.15	0								12	1.3	2.0
18	.12	0								50	1.9	2.1
19	.12	0								43	1.7	1.9
20	.12	0								39	1.5	1.7
21	.12	0								41	1.3	1.7
22	.12	0								47	1.3	1.5
23	.07	0								104	1.3	1.5
24	.06	0								62	1.3	1.3
25	.06	0								23	1.1	2.5
26	.06	0								12	1.1	3.0
27	.05	0								8.7	.98	7.9
28	.04	0								6.2	.83	4.3
29	.03	0								75	.83	3.1
30	.03	0								31	1.3	2.6
31	.03	---			---		---		---	14	1.7	---
TOTAL	4.99	.02	0	0	0	0	0	0	0	670.51	157.44	88.4
MEAN	.16	.0007	0	0	0	0	0	0	0	21.6	5.08	2.95
MAX	.29	.01	0	0	0	0	0	0	0	104	.68	15
MIN	.03	0	0	0	0	0	0	0	0	0	.83	1.3
CFSM	.003	0	0	0	0	0	0	0	0	.41	.10	.06
IN.	.004	.00001	0	0	0	0	0	0	0	.48	.11	.06
AC-FT	9.9	.04	0	0	0	0	0	0	0	1330	312	175
CAL YR 1975 TOTAL	6.05		MEAN .022	MAX	.75	MIN 0	CFSM .000	IN .006	AC-FT	16		
WTR YR 1976 TOTAL	921.36		MEAN 2.52	MAX	104	MIN 0	CFSM .05	IN .65	AC-FT	1830		

PEAK DISCHARGE (BASE, 1,000 FT³/S).--No peak above base.

RIO GRANDE BASIN

489

08431700 Limpia Creek above Fort Davis, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO- MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG)	DIS-SOLVED SODIUM (NA) (MG/L)
OCT. 22...	0920	.13	194	8.3	13.0	71	0	22	3.9	8.5
JULY 15...	0045	37	136	7.9	20.0	52	2	18	1.8	4.6
16...	1010	10	151	7.8	21.0	59	1	20	2.1	5.5
20...	1845	82	149	7.2	24.5	67	1	24	1.7	3.4
SEP. 01...	1700	1.3	200	8.1	21.0	72	0	23	3.5	7.7

DATE	SODIUM ADSORPTION RATIO	DIS-SOLVED PHOSPHATE SILICUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SI02) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
OCT. 22...	.4	2.7	88	0	16	6.6	.6	34	138
JULY 15...	.3	3.5	62	0	7.6	2.5	.4	23	92
16...	.3	3.3	70	0	8.1	2.7	.4	27	104
20...	.2	2.8	80	0	4.9	1.9	.4	16	95
SEP. 01...	.4	3.3	89	0	12	3.5	.6	35	132

RIO GRANDE BASIN

08431800 Limpia Creek below Fort Davis, Tex.

LOCATION.--Lat 30°40'52", long 103°47'30", Jeff Davis County, on downstream side of bridge on State Highway 17, 0.9 mile (1.4 km) upstream from Frazier Canyon, and 9.0 miles (14.5 km) northeast of Fort Davis.

DRAINAGE AREA.--227 mi² (588 km²).

PERIOD OF RECORD.--November 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,459.22 ft (1,359.170 m) above mean sea level.

AVERAGE DISCHARGE.--14 years (1962-76), 5.68 ft³/s (0.161 m³/s), 0.34 in/yr (9 mm/yr), 4,120 acre-ft/yr (5.08 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 1,870 ft³/s (53.0 m³/s) Aug. 1 (gage height, 5.87 ft or 1.789 m); no flow at times.

Period of record: Maximum discharge, 5,520 ft³/s (156 m³/s) Sept. 21, 1974 (gage height, 7.70 ft or 2.347 m); maximum gage height, 7.85 ft (2.393 m) June 10, 1964; no flow at times each year.

Maximum stages since 1904 occurred in 1932 and 1946 (stages unknown), the 1932 flood was the greatest, from information by local residents.

REMARKS.--Records good. No diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.06	.06	.04	.93	1.1	.55	.38	.22	.05	0	248	2.8
2	.06	.06	.04	.86	1.2	.55	.38	.22	.06	0	141	2.6
3	.06	.06	.04	.87	1.2	.52	.38	.21	.09	.03	58	2.6
4	.06	.06	.04	.91	1.1	.48	.40	.21	.03	.02	35	3.4
5	.06	.06	.05	.95	1.1	.49	.40	.24	.05	.02	24	3.6
6	.06	.06	.05	1.0	1.1	.48	.38	.20	.05	.01	15	4.7
7	.06	.06	.05	.97	1.0	.51	.38	.22	.04	0	11	5.3
8	.06	.06	.06	.97	1.0	.55	.38	.22	.04	0	8.2	32
9	.06	.06	.06	.88	1.0	.49	.38	.23	.04	0	7.1	23
10	.06	.06	.06	1.1	.98	.49	.38	.18	.03	0	6.7	19
11	.06	.06	.06	1.1	.92	.48	.38	.16	.03	0	6.5	13
12	.06	.07	.07	1.1	.92	.45	.38	.17	.02	69	6.2	8.5
13	.06	.07	.07	.94	.91	.43	.38	.15	.02	26	5.8	6.7
14	.06	.07	.07	1.0	.89	.43	.36	.15	.01	57	5.8	5.6
15	.06	.07	.07	1.1	.86	.44	.37	.15	0	67	5.5	6.2
16	.06	.06	.08	1.1	.83	.43	.34	.14	0	32	5.1	5.3
17	.06	.06	.09	1.1	.85	.42	.30	.16	0	15	4.9	17
18	.07	.05	.41	1.2	.78	.39	.30	.16	0	53	4.7	12
19	.07	.05	1.0	1.1	.78	.40	.29	.14	0	49	4.7	11
20	.06	.04	1.1	1.1	.76	.43	.29	.15	0	33	4.5	27
21	.07	.04	1.2	1.3	.63	.43	.28	.16	0	74	4.3	9.8
22	.07	.04	1.3	1.4	.59	.43	.26	.15	0	78	3.9	7.1
23	.07	.04	1.3	1.4	.62	.43	.25	.12	0	102	3.8	6.2
24	.07	.04	1.3	1.4	.61	.43	.25	.11	0	121	3.4	5.8
25	.06	.05	1.1	1.3	.51	.40	.24	.11	0	53	3.2	6.2
26	.06	.05	.95	1.2	.51	.31	.23	.11	0	32	3.1	8.2
27	.06	.05	.95	1.2	.55	.38	.22	.08	0	21	3.1	14
28	.06	.05	.89	1.2	.55	.39	.22	.08	0	15	2.9	21
29	.05	.05	.89	1.2	.55	.38	.23	.07	0	153	2.8	15
30	.05	.04	1.0	1.2	---	.38	.24	.06	0	147	2.8	11
31	.06	---	1.0	1.1	---	.38	---	.05	---	66	2.8	---
TOTAL	1.90	1.65	15.39	34.18	24.40	13.75	9.65	4.78	.61	1263.08	643.8	315.6
MEAN	.061	.055	.50	1.10	.84	.44	.32	.15	.020	40.7	20.8	10.5
MAX	.07	.07	1.3	1.4	1.2	.55	.40	.24	.09	153	248	32
MIN	.05	.04	.04	.86	.51	.31	.22	.05	0	0	2.8	2.6
CFSM	0	0	.002	.004	.003	.001	.001	0	0	.18	.09	.05
IN.	.0003	.0003	.003	.006	.004	.002	.002	.0008	.00009	.21	.11	.05
AC-FT	3.8	3.3	31	68	48	27	19	9.5	1.2	2510	1280	626

CAL YP 1975 TOTAL 637.50 MEAN 1.75 MAX 88 MIN .01 CFSM .007 IN .10 AC-FT 1240
WTR YR 1976 TOTAL 2328.79 MEAN 6.36 MAX 248 MIN 0 CFSM .03 IN .38 AC-FT 4620

PEAK DISCHARGE (BASE, 1,300 FT³/S).--July 29 (2130) 1,560 ft³/s (5.68 ft); Aug. 1 (1830) 1,870 ft³/s (5.87 ft).

RIO GRANDE BASIN

491

08433000 Barrilla Draw near Saragosa, Tex.
(Formerly published as Barrilla Creek near Saragosa)

LOCATION.--Lat 30°57'28", long 103°27'33", Reeves County, on right bank at downstream side of bridge on U.S. Highway 290 (Interstate 10), 12.2 miles (19.6 km) east of Saragosa, 17.0 miles (27.4 km) east of Balmorhea, and 34.4 miles (55.3 km) west of Fort Stockton.

DRAINAGE AREA.--612 mi² (1,585 km²).

PERIOD OF RECORD.--December 1924 to July 1926, June to September 1932 (published as "Barrilla Creek"), October 1975 to September 1976.

GAGE.--Water-stage recorder. Datum of gage is 3,083.36 ft (939.808 m) above mean sea level. Prior to Oct. 1, 1975, water-stage recorder at site 600 ft (180 m) upstream at different datum.

EXTREMES.--Current year: Maximum discharge, about 8 ft³/s (0.23 m³/s) July 14 (gage height, 0.60 ft or 0.183 m, from high-water mark); no flow most of time.
Period of record: Maximum discharge, 15,500 ft³/s (439 m³/s) Aug. 30, 1932 (gage height, 10.45 ft or 3.185 m, site and datum then in use); no flow most of time.

REMARKS.--Records fair. Considerable diversion for irrigation by spreader dams above station.

REVISIONS (WATER YEARS).--WSP 1312: 1925.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1										0		
2										0		
3										0		
4										0		
5										0		
6										0		
7										0		
8										0		
9										0		
10										0		
11										0		
12										0		
13										0		
14										.33		
15										0		
16										0		
17										0		
18										0		
19										0		
20										0		
21										0		
22										0		
23										0		
24										0		
25										0		
26										0		
27										0		
28										0		
29										0		
30										0		
31		---			---		---		---	0		---
TOTAL	0	0	0	0	0	0	0	0	0	.33	0	0
MEAN	0	0	0	0	0	0	0	0	0	.011	0	0
MAX	0	0	0	0	0	0	0	0	0	.33	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	0	0	0	.7	0	0
WTR YR 1976	TOTAL	0.33	MEAN	.0009	MAX	.33	MIN	0	AC-FT	.7		

RIO GRANDE BASIN

08435000 Grandfalls-Big Valley Canal near Barstow, Tex.

LOCATION.--Lat 31°25'21", long 103°15'21", Ward County, on left bank 180 ft (55 m) downstream from diversion dam on Pecos River and head-gate of the canal and 8.5 miles (13.7 km) southeast of Barstow.

PERIOD OF RECORD.--March 1922 to November 1925, September 1939 to May 1941, December 1941 to September 1957, and March 1964 to June 1976 (discontinued).

GAGE.--Water-stage recorder with concrete weir. Altitude of gage is 2,520 ft (768 m), from topographic map. Prior to Sept. 1, 1939, at site 120 ft (37 m) downstream at 0.30 ft (0.091 m) lower datum.

AVERAGE DISCHARGE.--27 years (1939-40, 1942-57, 1964-75), 3.89 ft³/s (0.110 m³/s), 2,820 acre-ft/yr (3.48 hm³/yr).

EXTREMES.--Period of record: Maximum daily discharge, 381 ft³/s (10.8 m³/s) Aug. 4, 1925; no flow at times each year.

REMARKS.--Records good. Local runoff is deleted from daily discharge record. Water is diverted from left bank of the Pecos River and is used for irrigation along the bank and downstream from this station.

DISCHARGE, IN CUBIC FEET PER SECOND, OCTOBER 1975 TO JUNE 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0	.20			0				
2				0	.30			0				
3				0	.15			0				
4				0	0			0				
5				0	0			0				
6				0	0			0				
7				0	0			0				
8				0	0			0				
9				0	0			.01				
10				0	0			.18				
11				0	0			.40				
12				0	0			1.1				
13				0	0			1.4				
14				0	0			1.2				
15				0	0			1.2				
16				0	0			.51				
17				0	0			0				
18				0	0			0				
19				0	0			0				
20				0	0			0				
21				0	0			0				
22				0	0			0				
23				0	0			0				
24				.02	0			0				
25				.04	0			0				
26				.08	0			0				
27				.14	0			0				
28				.14	0			0				
29				.14	0			0				
30				.18	---			0				
31		---		.20	---		---	0	---			
TOTAL	0	0	0	.94	.79	0	0	6.50	0			
MEAN	.00	.00	0	.030	.027	0	0	.21	0			
MAX	0	0	0	.20	.30	0	0	1.4	0			
MIN	0	0	0	0	0	0	0	0	0			
AC-FT	0	0	0	1.9	1.6	0	0	13	0			
CAL YR 1975	TOTAL	21.20	MEAN .035	MAX 3.4	MIN 0	AC-FT 42						
WTR YR 1976	TOTAL	-	MEAN -	MAX -	MIN -	AC-FT -						

RIO GRANDE BASIN

493

08435600 Toronto Creek near Alpine, Tex.

LOCATION.--Lat 30°21'28", long 103°42'48", Brewster County, on right bank 200 ft (61 m) upstream from bridge on Farm Road 1703 and 3.4 miles (5.5 km) west of Alpine.

DRAINAGE AREA.--27.9 mi² (72.3 km²).

PERIOD OF RECORD.--Discharge: November 1970 to December 1976 (discontinued). Prior to October 1974, published as Paisano Creek near Alpine.

Water quality: Chemical analyses: May 1972 to September 1976 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 4,614.80 ft (1,406.591 m) above mean sea level.

AVERAGE DISCHARGE.--5 years (1971-76), 0.609 ft³/s (0.0172 m³/s), 441 acre-ft/yr (544,000 m³/yr).

EXTREMES.--Water year 1976: Maximum discharge, 440 ft³/s (12.5 m³/s) Aug. 29 (gage height, 1.75 ft or 0.533 m); no flow most of time. October to December 1976: No flow during period.

Period of record: Maximum discharge, 3,530 ft³/s (100 m³/s) Aug. 14, 1971 (gage height, 4.73 ft or 1.442 m); no flow most of time each year.

REMARKS.--Discharge records good. No flow for period October, November, and December, 1976.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									0	0	1.4	0
2									0	0	0	0
3									0	0	0	0
4									0	0	0	0
5									0	0	0	0
6									0	0	0	0
7									0	0	0	0
8									0	0	0	0
9									0	0	0	0
10									0	0	0	0
11									0	0	0	0
12									0	.01	0	0
13									0	0	0	0
14									0	.30	0	0
15									0	0	0	.01
16									0	0	0	0
17									0	0	0	0
18									0	0	0	0
19									0	0	0	0
20									0	0	0	0
21									0	0	0	0
22									0	0	0	0
23									.01	0	0	0
24									0	0	0	0
25									0	0	0	0
26									0	0	0	1.9
27									0	0	0	.02
28									0	0	0	0
29									0	0	34	0
30									0	3.5	.16	0
31		---			---		---		---	.74	0	---
TOTAL	0	0	0	0	0	0	0	0	.01	4.55	35.56	1.93
MEAN	0	0	0	0	0	0	0	0	.0001	.15	1.15	.064
MAX	0	0	0	0	0	0	0	0	.01	3.5	34	1.9
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	0	0	.02	9.0	71	3.8

CAL YR 1975 TOTAL 83.19 MEAN .23 MAX 39 MIN 0 AC-FT 165

CAL YR 1976 TOTAL 42.05 MEAN .11 MAX 34 MIN 0 AC-FT 83

WTR YR 1976 TOTAL 42.05 MEAN .11 MAX 34 MIN 0 AC-FT 83

PEAK DISCHARGE (BASE, 500 FT³/S).--July 30 (2200) 59 ft³/s (0.98 ft); Aug. 29 (2030) 440 ft³/s (1.75 ft).

RIO GRANDE BASIN

08435600 Toronto Creek near Alpine, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO- MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG)	DIS-SOLVED SODIUM (NA) (MG/L)
JUN 23...	0730	1.7	61	7.3	20.0	21	1	6.9	.9	1.2
JUL 14...	0800	10	138	7.2	20.0	48	0	17	1.4	5.4
AUG 01...	0840	40	163	7.3	20.0	64	0	23	1.7	4.9
29...	1000	133	121	7.5	18.0	48	0	17	1.3	3.0

DATE	SODIUM ADSORPTION RATIO	DIS-SOLVED PO-TAS- SIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SiO2) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
JUN 23...	.1	4.5	24	0	4.0	1.4	.4	21	52
JUL 14...	.3	4.7	60	0	5.9	2.3	.7	20	87
AUG 01...	.3	4.6	85	0	5.7	3.2	.5	25	111
29...	.2	3.9	62	0	4.5	4.3	.5	17	82

RIO GRANDE BASIN

495

08435620 Alpine Creek at Alpine, Tex.

LOCATION.--Lat 30°21'09", long 103°40'02", Brewster County, on left bank on upstream side of low-water crossing at Avenue G in Alpine.

DRAINAGE AREA.--18.1 mi² (46.9 km²).

PERIOD OF RECORD.--Discharge: November 1970 to December 1976 (discontinued).

Water quality: Chemical analyses: October 1972 to September 1976 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 4,489.49 ft (1,368.397 m) above mean sea level.

AVERAGE DISCHARGE.--5 years (1971-76), 0.682 ft³/s (0.0193 m³/s), 494 acre-ft/yr (609,000 m³/yr).

EXTREMES.--Water year 1976: Maximum discharge, 230 ft³/s (6.51 m³/s) July 29 (gage height, 2.52 ft or 0.768 m); no flow most of time.

October to December 1976: Maximum discharge during period, 0.29 ft³/s (0.008 m³/s) Dec. 13 (gage height, 0.42 ft or 0.128 m); no flow most of time.

Period of record: Maximum discharge, 3,210 ft³/s (90.9 m³/s) Sept. 20, 1974 (gage height, 6.85 ft or 2.088 m), from rating curve extended above 586 ft³/s (17.0 m³/s) on basis of step-backwater method; no flow at times each year.

REMARKS.--Discharge records fair. Rain gage is located at station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0	0					0	.01	0
2				0	0					0	.01	0
3				0	0					0	.02	0
4				0	0					0	.01	0
5				0	.02					0	0	0
6				0	0					0	0	.02
7				0	0					0	0	0
8				0	0					0	0	0
9				0	0					0	0	0
10				0	0					0	0	0
11				0	0					0	0	0
12				0	0					.11	0	0
13				0	0					0	0	0
14				0	0					0	0	0
15				0	0					0	0	0
16				0	0					0	0	0
17				0	0					0	.04	0
18				0	0					0	0	0
19				0	0					0	0	0
20				0	0					0	0	0
21				.02	0					0	0	0
22				0	0					0	0	0
23				0	0					0	0	0
24				0	0					0	0	0
25				0	0					0	0	0
26				0	0					0	0	0
27				0	0					0	0	0
28				0	0					0	0	0
29				0	0					13	.01	0
30				0	---					.02	.01	0
31		---		0	---		---		---	0	0	---
TOTAL	0	0	0	.02	.02	0	0	0	0	13.13	.11	.02
MEAN	0	0	0	.0006	.0007	0	0	0	0	.42	.004	.0007
MAX	0	0	0	.02	.02	0	0	0	0	13	.04	.02
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	.04	.04	0	0	0	0	26	.2	.04

CAL YR 1975 TOTAL 41.76 MEAN .11 MAX 6.1 MIN 0 AC-FT 83
WTR YR 1976 TOTAL 13.30 MEAN .036 MAX 13 MIN 0 AC-FT 26

PEAK DISCHARGE (BASE, 10 FT³/S).--July 29 (1630) 230 ft³/s (2.52 ft).

RIO GRANDE BASIN

08435620 Alpine Creek at Alpine, Tex.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, OCTOBER TO DECEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0									
2	0	0	0									
3	0	0	0									
4	0	0	0									
5	0	0	0									
6	0	0	0									
7	0	0	0									
8	0	0	0									
9	0	0	0									
10	0	0	0									
11	0	0	0									
12	0	0	0									
13	0	0	.04									
14	0	0	0									
15	0	0	0									
16	0	0	0									
17	0	.02	0									
18	0	0	0									
19	0	0	0									
20	0	0	0									
21	0	0	0									
22	0	0	0									
23	0	0	0									
24	0	0	0									
25	0	0	0									
26	0	0	0									
27	0	0	0									
28	.01	0	0									
29	0	0	0									
30	0	0	0									
31	0	---	0									
TOTAL	.01	.02	.04									
MEAN	.0003	.0007	.001									
MAX	.01	.02	.04									
MIN	0	0	0									
AC-FT	.02	.04	.08									

CAL YR 1976	TOTAL	13.37	MEAN .037	MAX 13	MIN 0	AC-FT 27
WTR YR 1977	TOTAL	-	MEAN -	MAX -	MIN -	AC-FT -

PEAK DISCHARGE (BASE, 10 FT³/S).--No peak above base.

RIO GRANDE BASIN

497

08435660 Moss Creek near Alpine, Tex.

LOCATION.--Lat 30°20'09", long 103°38'27", Brewster County, on right bank 0.3 mile (0.5 km) upstream from State Highway 118 and 1.8 miles (2.9 km) south of Alpine.

DRAINAGE AREA.--11.3 mi² (29.3 km²).

PERIOD OF RECORD.--Discharge: November 1970 to December 1976 (discontinued). Prior to October 1974, published as West Moss Creek near Alpine.

Water quality: Chemical analyses: May 1972 to September 1976 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 4,577.72 ft (1,395.289 m) above mean sea level.

AVERAGE DISCHARGE.--5 years (1971-76), 0.464 ft³/s (0.0130 m³/s), 336 acre-ft/yr (414,000 m³/yr).

EXTREMES.--Water year 1976: Maximum discharge, 163 ft³/s (4.62 m³/s) July 15 (gage height, 2.60 ft or 0.792 m); no flow most of time. October to December 1976: Maximum discharge during period, 0.15 ft³/s (0.004 m³/s) Nov. 14 (gage height, 0.49 ft or 0.149 m); no flow most of time.

Period of record: Maximum discharge, 3,760 ft³/s (106 m³/s) Sept. 20, 1974 (gage height, 7.93 ft or 2.417 m); no flow most of time each year.

REMARKS.--Discharge records good. Recording rain gage located at station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1										0	.67	.01
2										0	.01	0
3										0	0	0
4										0	0	0
5										0	0	0
6										0	0	0
7										0	0	0
8										0	0	0
9										0	0	0
10										0	0	0
11										0	0	0
12										.43	0	0
13										0	0	0
14										0	0	0
15										8.2	0	0
16										0	0	0
17										0	0	0
18										0	.08	0
19										0	0	0
20										0	0	0
21										0	0	0
22										0	0	0
23										0	0	0
24										0	0	0
25										0	0	0
26										.03	0	.25
27										0	0	.01
28										0	0	0
29										.97	0	0
30										.01	.61	0
31		---			---		---		---	.03	0	---
TOTAL	0	0	0	0	0	0	0	0	0	9.67	1.37	.27
MEAN	0	0	0	0	0	0	0	0	0	.31	.044	.009
MAX	0	0	0	0	0	0	0	0	0	8.2	.67	.25
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	0	0	0	19	2.7	.5

CAL YR 1975 TOTAL 105.58 MEAN .29 MAX 22 MIN 0 AC-FT 209
WTR YR 1976 TOTAL 11.31 MEAN .031 MAX 8.2 MIN 0 AC-FT 22

PEAK DISCHARGE (BASE, 20 FT³/S).--July 15 (1600) 163 ft³/s (2.60 ft).

RIO GRANDE BASIN

08435660 Moss Creek near Alpine, Tex.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, OCTOBER TO DECEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0										
2		0										
3		0										
4		0										
5		0										
6		0										
7		0										
8		0										
9		0										
10		0										
11		0										
12		0										
13		0										
14		.01										
15		0										
16		0										
17		0										
18		0										
19		0										
20		0										
21		0										
22		0										
23		0										
24		0										
25		0										
26		0										
27		0										
28		0										
29		0										
30		0										
31		---										
TOTAL	0	.01	0									
MEAN	0	.0003	0									
MAX	0	.01	0									
MIN	0	0	0									
AC-FT	0	.02	0									

CAL YR 1976	TOTAL	11.32	MEAN	.031	MAX	8.2	MIN	0	AC-FT	22
WTR YR 1977	TOTAL	-	MEAN	-	MAX	-	MIN	-	AC-FT	-

PEAK DISCHARGE (BASE, 20 FT³/S).--No peak above base.

RIO GRANDE BASIN

499

08435660 Moss Creek near Alpine, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPF- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NESIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)
JULY 15...	1630	155	183	7.6	21.0	82	0	26	4.1	3.5
DATE		SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RINE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L)
JULY 15...		.2	3.8	105	0	4.1	1.6	.3	20	115

RIO GRANDE BASIN

08435700 Sunny Glen Canyon near Alpine, Tex.

LOCATION.--Lat 30°22'52", long 103°44'08", Brewster County, on right bank just upstream from private low-water crossing, about 200 ft (61 m) north of the end of Farm Road 1703, 4.7 miles (7.6 km) northwest of Alpine, and 9.2 miles (14.8 km) upstream from Paisano Creek.

DRAINAGE AREA.--29.7 mi² (76.9 km²).

PERIOD OF RECORD.--February 1968 to current year.

GAGE.--Water-stage recorder. Altitude of gage is about 4,660 ft (1,420 m).

AVERAGE DISCHARGE.--8 years, 0.325 ft³/s (0.0092 m³/s), 0.15 in/yr (4 mm/yr), 235 acre-ft/yr (290,000 m³/yr).

EXTREMES.--Current year: No flow during year.

Period of record: Maximum discharge, 576 ft³/s (16.3 m³/s) Sept. 21, 1974 (gage height, 2.71 ft or 0.826 m); no flow most of time each year.

REMARKS.--Records excellent. No known diversions or regulation above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31		---			---		---		---			---
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
MEAN	0	0	0	0	0	0	0	0	0	0	0	0
MAX	0	0	0	0	0	0	0	0	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	0	0	0	0	0	0
CAL YR 1975	TOTAL	13.26	MEAN .036	MAX	12	MIN 0	AC-FT 26					
WTR YR 1976	TOTAL	0.00	MEAN .0000	MAX	.00	MIN 0	AC-FT .0					

PEAK DISCHARGE (BASE, 50 FT³/S).--No peak above base.

RIO GRANDE BASIN

501

08435800 Coyanosa Draw near Fort Stockton, Tex.

LOCATION.--Lat 31°02'27", long 103°08'15", Pecos County, at downstream side of bridge on U.S. Highway 285 and 18.4 miles (29.6 km) north-west of Fort Stockton.

DRAINAGE AREA.--1,182 mi² (3,061 km²).

PERIOD OF RECORD.--February 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,846.86 ft (867.72 m) above mean sea level (Texas Highway Department bridge plans). Jan. 22 to Sept. 30, 1969, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--12 years, 3.99 ft³/s (0.113 m³/s), 0.05 in/yr (1 mm/yr), 2,890 acre-ft/yr (3.56 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 860 ft³/s (24.4 m³/s) June 13 (gage height, 7.71 ft or 2.350 m); no flow most of year.
Period of record: Maximum discharge, 12,600 ft³/s (357 m³/s) June 15, 1967 (gage height, 15.20 ft or 4.633 m); no flow most of time each year.
Maximum stage occurred in 1954, 19.6 ft (5.97 m). Discharge for flood of Sept. 4, 1925, 4,070 ft³/s (115 m³/s), by slope-area measurement, at a site 8 miles (13 km) upstream on U.S. Highway 290.

REMARKS.--Records poor. No known regulation or diversion.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								58	0	0	0	
2								0	0	0	0	
3								0	0	0	0	
4								0	0	0	0	
5								0	0	3.8	0	
6								0	0	0	0	
7								48	0	0	0	
8								0	0	0	0	
9								0	0	0	0	
10								0	0	0	0	
11								0	0	0	0	
12								0	0	0	0	
13								0	59	0	0	
14								0	75	0	0	
15								0	0	0	0	
16								0	0	0	0	
17								0	0	0	0	
18								0	0	0	0	
19								0	0	0	0	
20								0	0	0	0	
21								0	0	0	0	
22								0	0	0	0	
23								0	0	0	0	
24								0	0	0	0	
25								0	0	0	0	
26								0	0	0	0	
27								0	0	0	0	
28								0	0	0	0	
29								0	0	0	0	
30								0	0	0	0	
31		---			---		---	0	---	0	1.8	---
TOTAL	0	0	0	0	0	0	0	106	134	3.8	1.8	0
MEAN	0	0	0	0	0	0	0	3.42	4.47	.12	.058	0
MAX	0	0	0	0	0	0	0	58	75	3.8	1.8	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
CFSM	0	0	0	0	0	0	0	.002	.003	0	0	0
IN.	0	0	0	0	0	0	0	.003	.004	.0001	.00005	0
AC-FT	0	0	0	0	0	0	0	210	265	7.5	3.6	0

CAL YR 1975 TOTAL 265.70 MEAN .73 MAX 197 MIN 0 CFSM 0 IN .008 AC-FT 527
WTR YR 1976 TOTAL 245.60 MEAN .67 MAX 75 MIN 0 CFSM 0 IN .008 AC-FT 487

PEAK DISCHARGE (BASE, 100 FT³/S)

DATE	TIME	G.H.T.	DISCHARGE
5- 1	0030	5.53	389
5- 7	0700	5.92	232
6-13	2300	7.71	860

08436500 Pecos County Water Improvement District No. 2 (upper diversion) canal near Grandfalls, Tex.

LOCATION.--Lat 31°18'43", long 102°55'10", Ward County, on left bank about 2.5 miles (4.0 km) upstream from bridge on State Highway 18, 4.6 miles (7.4 km) southwest of Grandfalls, and 12.5 miles (20.1 km) downstream from headgate of canal.

PERIOD OF RECORD.--March 1922 to July 1925 (published as "Imperial Highline Canal near Grandfalls"), August 1939 to September 1957, and March 1964 to current year.

GAGE.--Water-stage recorder. Concrete weir since Dec. 8, 1947. Altitude of gage is 2,455 ft (748 m), from topographic map. Prior to Aug. 21, 1939, water-stage recorder at site 8.5 miles (13.7 km) upstream at different datum. Aug. 21 to Oct. 3, 1939, and May 25 to Aug. 4, 1941, staff gage, and Oct. 4, 1939, to May 21, 1941, and Aug. 5, 1941, to Sept. 30, 1957, water-stage recorder at site 2.5 miles (4.0 km) downstream at different datum.

AVERAGE DISCHARGE.--31 years (1923-24, 1939-57, 1964-76), 32.9 ft³/s (0.932 m³/s), 23,840 acre-ft/yr (29.4 hm³/yr).

EXTREMES.--Period of record: Maximum daily discharge, 368 ft³/s (10.4 m³/s) Sept. 18, 1923; no flow at times each year.

REMARKS.--Records good. Local runoff is deleted from daily discharge record. Water is diverted from right bank of Pecos River and is used for irrigation and to supply water for Imperial Reservoir. Water is released from Imperial Reservoir into Pecos County Water Improvement District No. 2 canal and into Pecos County Water Improvement District No. 3 canal for irrigation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		.37		0	247		0	141	.01	0	0	151
2		.95		0	243		0	140	.36	0	0	151
3		.63		0	244		0	143	.04	0	0	157
4		0		0	222		0	149	0	0	0	162
5		0		0	114		0	134	0	0	0	161
6		0		0	72		0	155	.05	0	0	166
7		0		0	10		0	153	0	21	0	168
8		0		0	.54		0	155	0	53	0	169
9		0		0	.01		0	157	0	64	0	174
10		0		0	0		0	159	0	50	0	175
11		0		0	0		0	162	0	51	0	180
12		0		0	0		0	164	0	61	0	191
13		0		0	0		0	160	0	74	0	218
14		0		0	0		0	149	0	88	0	235
15		0		0	0		0	144	0	135	0	206
16		0		0	0		0	137	0	146	0	76
17		0		0	0		0	93	0	115	0	45
18		0		0	0		0	19	0	62	0	33
19		0		0	0		0	1.8	0	32	19	2.4
20		0		0	0		0	.02	0	22	72	.02
21		0		0	0		0	0	0	4.3	98	0
22		0		0	0		0	0	0	.02	105	0
23		0		3.5	0		0	0	0	0	106	0
24		0		69	0		0	0	0	0	108	13
25		0		231	0		0	0	0	0	108	27
26		0		235	0		0	0	0	0	94	19
27		0		240	0		0	0	0	0	95	1.8
28		0		243	0		28	0	0	0	98	.02
29		0		244	0		123	0	0	0	104	0
30		0		245	0		124	0	0	0	119	0
31		---		245	---		---	0	---	0	126	---
TOTAL	0	1.35	0	1755.5	1162.60	0	275	2535.82	.46	978.32	1252	2881.24
MEAN	0	.045	0	56.6	40.1	0	9.17	81.8	.015	31.6	40.4	96.0
MAX	0	.95	0	245	249	0	124	164	.36	146	126	235
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	2.7	0	3480	2310	0	545	5030	.9	1940	2480	5710
CAL YR 1975	TOTAL	6335.45	MEAN 17.4	MAX 230	MIN 0	AC-FT 12570						
WTR YR 1976	TOTAL	10842.29	MEAN 29.6	MAX 249	MIN 0	AC-FT 21510						

RIO GRANDE BASIN

503

08437500 Pecos County Water Improvement District No. 2 canal near Imperial, Tex.

LOCATION (revised).--Lat 31°16'38", long 102°43'54", Pecos County, on left bank about 2.4 miles (3.9 km) west of Imperial and about 7.5 miles (12.1 km) downstream from Imperial Reservoir.

PERIOD OF RECORD.--April 1940 to May 1941, March 1942 to September 1957, and March 1964 to current year.

GAGE.--Water-stage recorder. Wooden weir June 1, 1943, to Feb. 29, 1964, and concrete weir since Mar. 1, 1964. Altitude of gage is about 2,400 ft (732 m), from topographic map. Prior to July 11, 1940, at site 1.5 miles (2.4 km) upstream at different datum. July 12, 1940, to Mar. 23, 1942, at site 2.5 miles (4.0 km) upstream at datum 3.36 ft (1.024 m) higher. Mar. 24, 1942, to May 31, 1943, at site 0.5 mile (0.8 km) upstream at datum 0.70 ft (0.213 m) higher.

AVERAGE DISCHARGE.--27 years (1942-57, 1964-76), 13.1 ft³/s (0.371 m³/s), 9,490 acre-ft/yr (11.7 hm³/yr).

EXTREMES.--Period of record: Maximum daily discharge, 144 ft³/s (4.08 m³/s) July 27, 28, 31, Aug. 1, 1945; no flow at times each year.

REMARKS.--Records good. Local runoff is deleted from daily discharge record. Water is diverted from Imperial Reservoir (on right bank of Pecos River) for irrigation in the vicinity of Imperial. The total flow at this station does not include 440 acre-ft (0.543 hm³) that is diverted from canal 75 ft (23 m) upstream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	0			0	7.8	0	33	51	36	0	59
2	21	0			0	0	0	44	50	35	0	30
3	22	0			0	0	0	49	53	34	0	30
4	.15	0			0	0	0	50	61	54	0	19
5	0	0			0	0	36	51	55	55	0	4.1
6	0	0			0	0	44	50	55	52	0	3.6
7	0	0			0	0	46	22	53	51	0	.13
8	.11	0			0	0	44	4.2	54	51	0	.79
9	20	0			0	0	46	.36	53	53	0	0
10	24	0			35	0	43	0	53	53	50	0
11	24	34			40	0	45	0	50	51	69	0
12	24	32			40	0	44	0	41	37	67	0
13	24	11			39	0	42	0	40	1.4	65	0
14	41	.1			39	0	43	0	33	0	64	0
15	41	0			40	0	44	0	15	0	65	0
16	41	0			38	0	44	0	0	0	62	0
17	40	0			36	0	29	0	0	0	53	0
18	39	0			22	0	27	0	0	0	44	0
19	30	0			21	0	19	0	0	0	42	0
20	38	0			32	0	24	0	0	0	.79	0
21	37	0			40	0	.02	0	0	0	0	0
22	30	0			39	0	0	0	0	0	0	0
23	15	0			41	0	0	0	0	0	3.1	0
24	.02	0			41	0	0	0	0	0	9.0	0
25	0	0			42	0	0	0	0	0	27	0
26	0	0			41	0	0	0	0	0	37	0
27	0	0			41	0	0	0	0	0	47	0
28	0	0			40	0	0	0	29	0	57	0
29	0	0			30	0	0	34	40	0	60	0
30	0	0			---	0	0	61	37	0	56	0
31	0	---			---	0	---	55	---	0	57	---
TOTAL	506.18	77.10	0	0	737	7.8	620.02	477.56	823	563.4	934.89	146.62
MEAN	17.6	2.57	0	0	25.4	.25	20.7	15.4	27.4	18.2	30.2	4.89
MAX	41	34	0	0	42	7.8	46	61	61	55	69	59
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	1080	153	0	0	1460	15	1230	947	1630	1120	1850	291
CAL YR 1975	TOTAL	5033.79	MEAN	13.8	MAX	72	MIN	0	AC-FT	9980		
WTR YR 1976	TOTAL	4933.57	MEAN	13.5	MAX	69	MIN	0	AC-FT	9790		

RIO GRANDE BASIN

08437600 Pecos County Water Improvement District No. 3 canal near Imperial, Tex.

LOCATION (revised).--Lat 31°16'51", long 102°44'26", Pecos County, on left bank about 220 ft (67 m) upstream from crossing of Farm Road 11, 0.3 miles (0.5 km) downstream from headgate (Pecos No. 2 canal), and 2.9 miles (4.7 km) west of Imperial.

PERIOD OF RECORD.--March 1940 to September 1941, March 1942 to September 1957, and March 1964 to current year.

GAGE.--Water-stage recorder. Concrete weir since Mar. 7, 1944. Altitude of gage is 2,390 ft (728 m), from topographic map. Prior to Jan. 10, 1941, at site 350 ft (107 m) downstream at datum 6.79 ft (2.070 m) lower. Jan. 10, 1941, to Mar. 29, 1942, at site 200 ft (61 m) downstream at datum 3.65 ft (1.113 m) lower.

AVERAGE DISCHARGE.--28 years (1940-41, 1942-57, 1964-76), 10.4 ft³/s (0.295 m³/s), 7,530 acre-ft/yr (9.28 hm³/yr).

EXTREMES.--Period of record: Maximum daily discharge, 175 ft³/s (4.96 m³/s) Aug. 11, 1940; no flow at times each year.

REMARKS.--Records good. Local runoff is deleted from daily discharge record. Water is diverted from Imperial Reservoir (on right bank of Pecos River) for irrigation in the vicinity of Imperial.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	0			0		0	0	22	24	0	17
2	24	0			0		0	0	23	13	0	0
3	0	0			0		0	0	26	0	0	0
4	0	0			0		0	0	26	0	0	0
5	0	0			0		20	0	25	0	0	0
6	0	0			0		22	0	25	0	0	0
7	0	0			0		22	0	25	0	0	0
8	0	0			0		18	0	17	0	0	0
9	0	0			0		0	0	0	0	0	0
10	0	0			0		0	0	0	0	0	0
11	0	0			0		0	2.7	0	0	0	0
12	0	0			0		0	.01	0	0	0	0
13	0	0			6.4		0	0	0	0	0	0
14	0	0			31		0	0	0	0	0	0
15	0	0			33		0	0	14	0	0	0
16	0	0			33		0	0	25	0	0	0
17	0	0			26		0	0	24	0	0	0
18	0	3.2			19		0	0	15	0	0	0
19	0	20			14		0	0	.40	0	0	0
20	0	36			0		0	0	0	0	0	0
21	0	29			0		0	0	0	0	0	0
22	0	26			0		0	0	0	0	.01	0
23	0	1.2			0		0	0	0	0	37	0
24	0	0			0		0	0	0	0	41	0
25	0	0			0		0	0	0	0	43	0
26	0	0			0		0	0	0	0	44	0
27	0	0			0		0	0	0	0	44	0
28	0	0			0		0	0	20	0	29	0
29	0	0			0		0	21	24	0	22	0
30	0	0			---		0	23	24	0	25	0
31	0	---			---		---	23	---	0	27	---
TOTAL	52	115.4	0	0	162.4	0	82	69.71	335.40	37	312.01	17
MEAN	1.68	3.85	0	0	5.60	0	2.73	2.25	11.2	1.19	10.1	.57
MAX	24	36	0	0	33	0	22	23	26	24	44	17
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	103	229	0	0	322	0	163	138	665	73	619	34
CAL YR 1975	TOTAL	1037.37	MEAN 2.84	MAX 42	MIN 0	AC-FT 2060						
WTR YR 1976	TOTAL	1182.92	MEAN 3.23	MAX 44	MIN 0	AC-FT 2350						

RIO GRANDE BASIN

505

08437700 Ward County Water Improvement District No. 2 canal near Grandfalls, Tex.

LOCATION.--Lat 31°22'13", long 103°00'24", Ward County, on left bank 1,550 ft (477 m) upstream from Farm Road 1776, 2.3 miles (3.7 km) downstream from headgate, and 9.5 miles (15.3 km) west of Grandfalls.

PERIOD OF RECORD.--August 1939 to September 1941, November 1941 to September 1957, and March 1964 to current year.

GAGE.--Water-stage recorder. Concrete weir since Feb. 17, 1947. Altitude of gage is 2,460 ft (750 m), from topographic map. Prior to Jan. 10, 1941, at site 1.75 miles (2.82 km) downstream at different datum. Jan. 11, 1941, to Feb. 16, 1947, at site 50 ft (15 m) downstream at present datum.

AVERAGE DISCHARGE.--28 years (1939-40, 1942-57, 1964-76), 21.1 ft³/s (0.598 m³/s), 15,290 acre-ft/yr (18.9 hm³/yr).

EXTREMES.--Period of record: Maximum daily discharge, 198 ft³/s (5.61 m³/s) Apr. 9, 10, 1947; no flow at times each year.

REMARKS.--Records good. Local runoff is deleted from the discharge record. Water is diverted from the left bank of the Pecos River for irrigation in the vicinity of Grandfalls.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.20	0		0	0	0	0	1.7	78	0	.19	22
2	.32	.16		0	0	0	0	2.4	63	1.1	.07	2.8
3	.32	0		0	0	0	0	1.4	44	9.9	.22	1.9
4	.40	0		0	0	0	0	1.2	29	2.4	.26	2.2
5	.50	0		0	0	0	0	2.4	17	4.4	.23	2.2
6	.40	0		0	0	0	0	4.9	7.3	6.5	.18	2.2
7	.32	0		0	0	0	0	1.4	10	29	.16	2.2
8	.32	0		0	0	0	0	4.8	10	38	.21	2.2
9	.32	0		0	0	0	0	7.3	10	32	.21	2.2
10	.32	0		0	0	0	0	4.4	10	50	.14	2.2
11	.32	0		0	0	0	0	4.4	14	78	.21	23
12	.14	0		0	0	0	0	4.6	23	82	1.3	48
13	.07	0		0	0	0	0	2.5	21	67	18	98
14	.03	0		0	0	0	1.7	47	18	68	5.6	128
15	.03	0		0	0	2.8	2.7	50	14	45	4.5	88
16	.03	0		0	0	8.2	2.7	64	13	56	1.6	13
17	.03	0		0	0	.02	2.6	60	9.7	43	2.2	3.5
18	.03	0		0	0	0	2.4	60	1.7	15	67	1.1
19	.03	0		0	0	0	2.4	45	.97	4.9	101	6.4
20	.03	0		0	0	0	2.4	38	.90	3.6	51	7.5
21	.03	0		1.1	0	0	2.4	20	.65	20	42	7.5
22	.04	0		4.3	0	0	2.2	24	.62	27	43	7.5
23	.03	0		5.0	0	0	2.1	20	.62	1.8	42	18
24	.03	0		4.5	0	0	2.1	19	.59	.65	43	113
25	.03	0		.08	0	0	1.9	9.1	.49	.50	45	14
26	.02	0		0	0	0	3.2	8.0	.50	.39	58	9.2
27	.01	0		0	0	0	6.9	8.0	.07	.36	69	29
28	0	0		0	0	0	8.3	8.0	0	.36	71	26
29	0	0		0	0	0	2.7	8.2	0	.25	70	25
30	0	0		0	---	0	1.6	40	0	.16	50	23
31	0	---		0	---	0	---	77	---	.20	44	---
TOTAL	4.45	.16	0	14.98	0	11.02	50.3	702.8	398.11	687.47	831.28	730.8
MEAN	.14	.005	0	.48	0	.36	1.68	22.7	13.3	22.2	26.8	24.4
MAX	.50	.16	0	5.0	0	8.2	8.3	77	78	82	101	128
MIN	0	0	0	0	0	0	0	1.2	0	0	.07	1.1
AC-FT	8.8	.3	0	30	0	22	100	1390	790	1360	1650	1450
CAL YR 1975 TOTAL	1467.58		MEAN 4.02	MAX 77	MIN 0	AC-FT 2910						
WTR YR 1976 TOTAL	3431.37		MEAN 9.38	MAX 128	MIN 0	AC-FT 6810						

RIO GRANDE BASIN

507

08446500 Pecos River near Girvin, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)
OCT 31...	1730	390	18000	7.9	21.0	3300	3200	650	410	3100
NOV 30...	1500	365	20700	7.9	12.0	3900	3800	790	470	3900
DEC 05...	1000	30	20400	7.9	12.0	4000	3800	790	480	3700
JAN 31...	1525	218	12200	8.1	13.0	2300	2200	510	250	2100
FEB 29...	1515	180	17000	7.7	22.0	3200	3000	660	370	3000
MAR 26...	1015	26	22400	7.3	19.0	4100	4000	720	570	4100
APR 30...	1845	370	18200	7.9	22.0	4400	4400	690	660	3200
MAY 31...	1720	395	25600	8.1	29.0	4900	4900	890	650	4900
JUN 11...	1125	15	26400	7.4	23.0	5100	5000	950	660	5000
JUL 31...	1205	50	19700	7.2	29.0	3700	3600	740	440	3300
AUG 31...	1125	100	15400	7.4	26.0	2900	2800	620	330	2600
SEP 30...	1930	38	17700	7.5	24.0	3400	3300	700	400	3000
DATE	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SI02) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)
OCT 31...	23	46	90	0	2900	4900	2.3	.5	12100	.04
NOV 30...	27	46	154	0	3400	6300	--	2.5	15000	.03
DEC 05...	26	47	162	0	3500	6200	--	1.2	14800	.04
JAN 31...	19	49	179	0	2100	3400	--	9.8	8510	.07
FEB 29...	23	46	156	0	2800	4900	2.1	.7	11900	.10
MAR 26...	28	50	147	0	3800	7100	--	2.6	16400	.00
APR 30...	21	50	77	0	3300	5600	--	4.4	13500	--
MAY 31...	30	50	54	0	4400	8100	--	7.5	19000	.25
JUN 11...	31	60	70	0	4500	8000	--	8.7	19200	--
JUL 31...	24	50	88	0	3200	5500	--	2.5	13300	--
AUG 31...	21	60	72	0	2600	4200	2.0	1.7	10500	--
SEP 30...	22	70	58	0	2800	4900	--	.3	11900	--

RIO GRANDE BASIN

08446500 Pecos River near Girvin, Tex.--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

MONTH	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA+MG) (MG/L)
OCT. 1975.....	1036	16000	11000	30800	4460	12500	2660	7450	****
NOV. 1975.....	905	19200	13400	32800	5490	13400	3170	7730	****
DEC. 1975.....	936	20700	14800	37400	6000	15200	3420	8640	****
JAN. 1976.....	1398	20100	14400	54300	5780	21800	3310	12500	****
FEB. 1976.....	1199	15900	10900	35400	4420	14300	2640	8560	****
MAR. 1976.....	886	19900	14100	33700	5730	13700	3280	7850	****
APR. 1976.....	630	22300	16200	27500	6500	11000	3660	6230	****
MAY 1976.....	658	21300	15300	27300	6190	11000	3510	6240	****
JUNE 1976.....	513	26200	19700	27300	7790	10800	4300	5950	****
JULY 1976.....	507	20600	14800	20300	5960	8160	3400	4650	****
AUG. 1976.....	623	20600	14800	24800	5960	10000	3400	5720	****
SEPT 1976.....	1069	16300	11300	32600	4560	13200	2710	7820	****
TOTAL	10360	**	**	384000	**	155000	**	89300	**
WTD.AVG.	28.38	19300	14000	**	5500	**	3200	**	*****

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C) WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14300	17200	20800	20800	13400	17300	22700	19300	25600	24700	20500	11900
2	15200	17900	20700	21100	14100	17500	22700	22200	25700	24800	20700	15800
3	16700	18200	20500	21000	14900	17700	22600	23400	25300	24600	20600	18700
4	17100	18200	20300	21100	15600	18000	22500	21100	25400	24800	20000	17400
5	16300	18100	20300	21100	16000	18000	22500	20400	26100	25100	19100	15600
6	15500	18400	20400	21300	16000	18200	22500	21200	25800	25000	18400	15500
7	15500	18400	20500	21200	16000	18300	22600	21300	26700	25300	18600	15400
8	15700	18200	20300	21400	16100	18500	22600	20400	25900	25000	19300	15600
9	15500	18700	20300	21400	16600	18800	22700	20700	25500	25200	19600	14600
10	15500	18900	20900	21500	17000	18800	22700	19800	26300	24700	20100	12900
11	15200	19100	20700	21800	17400	19200	22600	20100	26800	24600	20200	11900
12	14600	19100	20600	21200	17600	19200	22700	19300	26800	24400	20600	12700
13	14900	19000	20700	21200	16800	19500	22900	18300	27200	24600	20700	14400
14	15400	19500	20700	21400	16100	19500	22900	17700	27200	23000	21000	14000
15	16300	19700	21000	21500	15600	19900	22600	17100	27800	21800	21200	14300
16	15400	20100	21100	21500	14600	20100	22600	18600	27400	19000	21600	14400
17	15800	19900	21400	21500	15100	20300	23100	19200	26500	17100	21600	14400
18	15500	20300	22200	21500	15000	20700	23000	21100	26000	16300	22300	14400
19	15100	20600	21300	21800	14900	21100	23300	21400	25800	16400	23100	14600
20	15100	20600	21100	21800	15400	21300	23000	21700	26000	16300	23700	14600
21	15300	20000	21100	21800	15700	21600	22600	21300	26600	16400	24400	16800
22	15800	19100	21000	21700	15800	21400	22600	22600	27700	15800	24200	17300
23	16000	18800	21000	21600	16200	21600	21900	22400	27900	16400	24100	17000
24	16700	18500	20800	21800	16200	21900	23000	22700	27400	16100	24200	17100
25	17000	18700	20700	21300	16800	22000	22400	22400	26200	16400	24100	17100
26	17200	19000	20400	21800	16800	22400	21300	23900	25900	17000	23900	18400
27	17200	19500	20400	21300	16900	22400	20100	24200	25300	18000	22700	19200
28	17400	20100	20600	20500	16900	22600	19700	24500	25000	18300	22700	20000
29	17700	20500	20400	12100	17200	22600	19300	24400	25000	18600	16800	19800
30	18000	20800	20400	11500	---	22300	18200	24400	24600	18600	16500	17800
31	18000	---	20600	12300	---	22400	---	25300	---	19300	15300	---
MONTH	16100	19200	20700	20500	16000	20200	22200	21400	26300	20800	21000	15800

RIO GRANDE BASIN

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08446500 Pecos River near Girvin, Tex.--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23.0	20.0	12.0	12.0	15.0	20.0	19.0	19.0	30.0	32.0	31.0	25.0
2	23.0	22.0	11.0	9.0	15.0	16.0	19.0	24.0	28.0	31.0	32.0	29.0
3	21.0	21.0	18.0	13.0	17.0	18.0	22.0	22.0	24.0	31.0	31.0	29.0
4	18.0	22.0	12.0	9.0	15.0	18.0	20.0	21.0	26.0	31.0	32.0	29.0
5	23.0	21.0	12.0	11.0	16.0	18.0	21.0	21.0	26.0	27.0	32.0	29.0
6	22.0	23.0	---	12.0	11.0	15.0	22.0	23.0	26.0	27.0	30.0	28.0
7	22.0	21.0	16.0	10.0	10.0	14.0	22.0	19.0	28.0	30.0	32.0	24.0
8	23.0	26.0	15.0	9.0	16.0	19.0	22.0	17.0	28.0	30.0	29.0	30.0
9	23.0	22.0	17.0	10.0	15.0	19.0	23.0	20.0	25.0	30.0	26.0	26.0
10	25.0	19.0	16.0	10.0	19.0	15.0	24.0	25.0	30.0	29.0	28.0	25.0
11	24.0	20.0	15.0	8.0	20.0	19.0	23.0	27.0	29.0	27.0	30.0	30.0
12	27.0	18.0	16.0	14.0	20.0	19.0	22.0	26.0	26.0	25.0	30.0	28.0
13	25.0	15.0	15.0	14.0	19.0	15.0	25.0	25.0	29.0	25.0	30.0	28.0
14	25.0	15.0	18.0	13.0	20.0	15.0	25.0	26.0	29.0	26.0	30.0	25.0
15	21.0	18.0	11.0	14.0	21.0	15.0	20.0	27.0	29.0	25.0	28.0	28.0
16	24.0	15.0	8.0	13.0	19.0	14.0	21.0	24.0	30.0	28.5	30.0	27.0
17	22.0	18.0	10.0	14.0	17.0	16.0	19.0	22.0	30.0	28.0	28.0	26.0
18	21.0	19.0	12.0	15.0	18.0	19.0	20.0	22.0	31.0	28.0	29.0	28.0
19	22.0	18.0	12.0	11.0	19.0	20.0	21.0	20.0	28.0	28.0	31.0	26.0
20	23.0	13.0	12.0	11.0	17.0	20.0	22.0	21.0	---	27.0	30.0	29.0
21	23.0	15.0	12.0	12.0	12.0	17.0	23.0	27.0	31.0	28.0	29.0	26.0
22	23.0	10.0	13.0	13.0	14.0	20.0	19.0	26.0	31.0	25.0	24.0	26.0
23	24.0	9.0	11.0	16.0	15.0	20.0	25.0	27.0	30.0	28.0	31.0	28.0
24	21.0	14.0	11.0	14.0	17.0	21.0	27.0	28.0	31.0	29.0	29.0	26.0
25	17.0	18.0	8.0	14.0	20.0	19.0	27.0	25.0	31.0	30.0	27.0	26.0
26	15.0	---	11.0	20.0	22.0	21.0	23.0	27.0	25.0	---	29.0	25.0
27	22.0	17.0	12.0	9.0	19.0	19.0	24.0	27.0	29.0	29.0	28.0	25.0
28	23.0	17.0	9.0	12.0	19.0	18.0	25.0	27.0	27.0	29.0	27.0	21.0
29	22.0	15.0	9.0	13.0	22.0	19.0	20.0	28.0	32.0	30.0	27.0	25.0
30	20.0	12.0	9.0	12.0	---	17.0	22.0	27.0	25.0	29.0	27.0	24.0
31	21.0	---	14.0	13.0	---	20.0	---	29.0	---	29.0	26.0	---
MONTH	22.1	17.5	12.5	12.5	17.0	18.0	22.0	24.0	28.5	28.5	29.0	26.5

RIO GRANDE BASIN

08447000 Pecos River near Sheffield, Tex.
(Reconnaissance partial-record station)

LOCATION.--Lat 30°39'34", long 101°46'11", Pecos-Crockett County line, at U.S. Highway 290, 3.8 miles (6.1 km) southeast of Sheffield, and 4 miles (6 km) upstream from Live Oak Creek.

DRAINAGE AREA.--31,600 mi² (81,800 km²), approximately (contributing area).

PERIOD OF RECORD.--Occasional discharge measurements: October 1921 to April 1925, October 1968 to current year. Operated as a daily discharge station October 1939 to September 1949. Occasional water-quality data: November 1939 to June 1941, October 1946 to September 1947, October 1968 to current year.

DISCHARGE AND WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG)	DIS-SOLVED SODIUM (NA) (MG/L)
OCT. 20...	1110	44	11600	8.0	18.0	2100	2000	460	240	1900
DEC. 01...	1055	49	13000	8.3	12.5	2400	2200	480	280	2200
JAN. 09...	1515	52	15100	7.9	8.0	2800	2600	530	350	2800
FEB. 09...	1120	66	15800	7.8	12.5	2700	2600	620	290	2800
MAR. 22...	1215	48	12800	7.7	16.0	2500	2300	510	290	2200
MAY 03...	1215	25	11200	7.7	20.0	2100	1900	430	250	2000
JUNE 07...	1130	14	6580	7.7	24.0	1300	1100	270	140	1000
JULY 19...	1205	42	13000	7.4	24.5	2000	1900	400	250	2000
SEP. 03...	1530	39	12100	7.5	26.0	2300	2200	470	280	2100

DATE	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)	RICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SiO2) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
OCT. 20...	18	31	136	0	1800	3200	--	6.6	7700
DEC. 01...	20	31	147	0	2100	3400	--	7.4	8570
JAN. 09...	23	34	172	0	2400	4300	--	7.5	10500
FEB. 09...	23	35	214	0	2200	4400	--	6.3	10500
MAR. 22...	14	30	194	0	2200	3500	--	7.2	8830
MAY 03...	19	25	188	0	1700	3100	1.6	9.7	7610
JUNE 07...	12	18	220	0	900	1400	--	12	4050
JULY 19...	19	24	152	0	1700	3400	--	9.8	7860
SEP. 03...	14	33	151	0	1900	3400	--	4.5	8260

RIO GRANDE BASIN

511

08447020 Independence Creek near Sheffield, Tex.

LOCATION.--Lat 30°27'07", long 101°43'58", Terrell County, on left bank 0.5 mile (0.8 km) downstream from Joe Chandler Ranch Headquarters, 1.0 mile (1.6 km) upstream from mouth, 6 miles (10 km) downstream from bridge on Farm Road 1217, and 17 miles (27 km) southeast of Sheffield.

DRAINAGE AREA.--763 mi² (1,976 km²).

PERIOD OF RECORD.--January 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is about 1,883 ft (574 m) above mean sea level.

EXTREMES.--Current year: Maximum discharge, 2,690 ft³/s (76.2 m³/s) July 17 (gage height, 4.82 ft or 1.469 m); minimum, 20 ft³/s (0.57 m³/s) Jan. 27, 28, May 10, June 22-30.

Period of record: Maximum discharge, 78,100 ft³/s (2,210 m³/s) Sept. 20, 1974 (gage height, 16.74 ft or 5.102 m), from rating curve extended above 130 ft³/s (3.68 m³/s) on basis of slope-area measurement of peak flow; minimum, 13 ft³/s (0.37 m³/s) July 26, 1974. Maximum stage since at least 1900, about 22 ft (6.7 m) June 28, 1954, from information by local resident.

REMARKS.--Records good. The Chandler Estate and the Roden Ranch have permits to divert 243 acre-ft (300,000 m³) and 530 acre-ft (653,000 m³) annually, respectively.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	41	26	29	23	25	26	23	22	21	37	29
2	33	149	26	32	23	28	26	22	24	21	37	28
3	33	42	26	30	24	29	26	24	25	21	36	26
4	33	58	29	29	26	28	27	27	24	23	35	25
5	33	52	32	28	28	26	27	31	24	23	33	29
6	33	51	29	29	25	24	27	27	23	21	32	29
7	33	52	28	28	24	24	27	58	23	21	31	138
8	33	50	28	28	25	26	26	40	23	21	31	35
9	33	44	29	28	25	26	25	34	23	21	29	33
10	33	46	30	28	26	25	26	29	23	23	29	33
11	33	47	30	29	27	26	27	25	23	142	30	33
12	33	44	30	29	27	27	27	26	23	47	27	33
13	33	38	36	30	27	24	27	26	23	34	26	31
14	33	34	32	30	27	24	27	26	24	30	26	28
15	33	37	33	30	28	26	30	26	23	27	26	28
16	33	31	32	31	28	25	25	26	23	30	25	28
17	33	33	30	31	27	28	24	26	23	448	24	29
18	33	36	29	32	26	28	24	26	22	70	25	31
19	33	36	28	31	28	28	25	27	22	57	24	30
20	33	34	28	29	29	28	23	28	22	52	24	100
21	34	30	29	27	27	26	25	27	21	48	24	39
22	44	30	32	27	22	26	25	27	21	66	25	33
23	39	32	29	22	22	26	24	27	21	53	24	31
24	37	32	32	29	24	31	24	26	20	49	22	31
25	35	27	24	26	26	24	25	26	20	46	27	28
26	34	26	29	24	25	28	24	28	20	44	37	28
27	34	28	30	21	25	27	22	22	20	44	24	28
28	35	28	30	21	25	26	22	22	20	41	27	27
29	35	28	29	22	25	27	26	22	20	39	28	26
30	35	24	29	23	---	27	23	24	21	39	26	26
31	35	---	29	22	---	26	---	24	---	38	26	---
TOTAL	1064	1292	915	862	744	824	766	852	666	1700	877	1073
MEAN	34.3	43.1	29.5	27.8	25.7	26.6	25.5	27.5	22.2	54.8	28.3	35.8
MAX	44	169	33	32	29	31	30	58	25	448	37	138
MIN	33	26	26	21	22	24	22	22	20	21	22	25
AC-FT	2110	2560	1810	1710	1480	1630	1520	1690	1320	3370	1740	2130

CAL YP 1975 TOTAL 12511 MEAN 34.3 MAX 169 MIN 26 AC-FT 24820
WTR YP 1976 TOTAL 11635 MEAN 31.8 MAX 448 MIN 20 AC-FT 23080

PEAK DISCHARGE (BASE, 700 FT³/S)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
11- 2	0445	3.50	701	7-17	0315	4.82	2,690
7-11	1200	4.23	1,800	9- 7	0500	3.75	1,020

RIO GRANDE BASIN

08447410 Pecos River near Langtry, Tex.
(National stream-quality accounting network)

LOCATION.--Lat 29°48'10", long 101°26'45", at gaging station 7.4 miles (12.1 km) east of Langtry, 15.0 miles (24.1 km) upstream from confluence with the Rio Grande, and 638.2 miles (1,026.9 km) downstream from the American Dam at El Paso.

DRAINAGE AREA.--35,179 mi² (91,114 km²).

PERIOD OF RECORD.--Chemical analyses: October 1954 to current year. Chemical and biochemical analyses: October 1974 to current year.

REMARKS.--Records of specific conductance and discharge for water year 1976 are given in International Boundary and Water Commission Water Bulletins Nos. 45 and 46.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	RIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)	IMME- DIATE COLI- FORM (COL. PER 100 ML)
OCT										
01-31	--	248	3070	7.8	--	--	--	--	--	--
29...	0815	247	2980	8.0	18.0	3	8.7	93	.0	45
NOV										
01-30	--	344	2900	7.6	--	--	--	--	--	--
20...	0815	295	2980	8.1	15.0	10	8.9	88	.4	39
DEC										
01-31	--	265	3210	8.0	--	--	--	--	--	--
10...	0835	271	3100	8.0	12.0	3	10.0	93	.8	23
JAN										
01-31	--	244	3650	7.9	--	--	--	--	--	--
14...	0830	242	3620	8.1	10.0	--	--	--	--	--
FEB										
01-29	--	249	4530	7.6	--	--	--	--	--	--
03...	0835	285	3790	8.0	10.0	2	10.4	93	.3	8
MAR										
01-31	--	224	4080	7.7	--	--	--	--	--	--
10...	0845	226	4100	7.4	16.0	2	9.1	92	.9	8
APR										
01-30	--	204	3640	7.5	--	--	--	--	--	--
13...	0900	211	3610	8.1	21.0	2	8.2	92	.0	44
MAY										
01-31	--	225	3060	7.7	--	--	--	--	--	--
05...	0830	195	3360	7.9	19.0	2	9.3	93	.6	82
JUN										
01-30	--	164	2900	7.6	--	--	--	--	--	--
15...	0825	161	2880	7.8	27.0	10	7.0	90	.9	500
JUL										
01-31	--	1250	718	7.5	--	--	--	--	--	--
28...	0835	750	1820	8.1	27.0	6	7.6	97	.4	400
AUG										
01-31	--	467	1070	7.7	--	--	--	--	--	--
18...	0830	450	1790	7.9	26.0	4	7.7	96	.3	44
SEP										
01-30	--	448	2430	8.2	--	--	--	--	--	--
29...	0845	360	2210	7.9	22.0	8	8.4	99	.5	120

RIO GRANDE BASIN

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08447410 Pecos River near Langtry, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	FECAL COLI- FORM (COL. PER 100 ML)	STREP- TOCOCCI (COL- ONIES PER 100 ML)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)
OCT									
01-31	--	--	610	460	140	63	420	7.4	7.0
29...	4	52	620	470	140	64	400	7.0	7.5
NOV									
01-30	--	--	550	400	120	60	380	7.1	6.6
20...	12	56	610	450	140	64	400	7.0	7.0
DEC									
01-31	--	--	630	470	140	68	430	7.5	7.5
10...	14	14	680	510	160	67	400	6.7	6.8
JAN									
01-31	--	--	720	560	160	77	500	8.1	8.0
14...	--	--	710	550	160	76	480	7.8	7.0
FEB									
01-29	--	--	880	720	190	99	660	9.7	10
03...	5	8	730	570	160	80	550	8.9	8.0
MAR									
01-31	--	--	770	630	170	85	590	9.2	8.0
10...	2	8	800	650	180	84	580	9.0	8.5
APR									
01-30	--	--	720	580	160	77	520	8.5	8.5
13...	4	15	720	590	160	79	510	8.2	8.5
MAY									
01-31	--	--	590	460	130	65	410	7.3	--
05...	4	50	630	500	140	67	460	8.0	8.0
JUN									
01-30	--	--	550	430	120	60	400	7.4	--
15...	8	98	550	440	120	61	400	7.4	6.8
JUL									
01-31	--	--	230	73	73	11	62	1.8	--
28...	30	210	390	240	100	34	220	4.9	5.6
AUG									
01-31	--	--	--	--	100	--	240	--	--
18...	7	120	390	230	91	38	220	4.9	5.8
SEP									
01-30	--	--	480	330	110	49	310	6.2	--
29...	12	240	460	310	110	44	280	5.7	6.5

DATE	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L)	TOTAL NITRATE (N) (MG/L)
OCT									
01-31	176	0	400	710	--	17	--	1850	--
29...	182	0	380	680	--	15	1810	1780	1.7
NOV									
01-30	184	0	350	610	--	17	--	1640	--
20...	196	0	390	660	.8	16	1790	1770	2.0
DEC									
01-31	192	0	420	700	--	14	--	1880	--
10...	200	0	380	700	.7	14	1880	1830	1.6
JAN									
01-31	196	0	450	810	--	12	--	2120	--
14...	200	0	450	810	.8	11	2210	2090	.96
FEB									
01-29	192	0	600	1100	--	11	--	2770	--
03...	196	0	470	880	.8	11	2360	2260	.73
MAR									
01-31	180	0	560	1000	--	11	--	2520	--
10...	182	0	540	990	.9	11	2600	2480	1.6
APR									
01-30	162	0	470	860	--	12	--	2190	--
13...	162	0	470	900	.9	11	2350	2220	6.9
MAY									
01-31	160	0	390	670	--	12	--	1760	--
05...	152	0	420	800	.9	11	2090	1980	.57
JUN									
01-30	148	0	350	640	--	15	--	1660	--
15...	144	0	360	670	.8	14	1840	1710	.77
JUL									
01-31	188	0	59	100	.3	13	--	412	--
28...	188	0	200	360	.6	17	1090	1030	1.7
AUG									
01-31	190	0	240	390	.8	18	--	--	--
18...	186	0	210	350	.8	19	1090	1030	2.3
SEP									
01-30	180	0	310	520	--	18	--	1410	--
29...	180	0	320	460	.8	17	1250	1330	1.1

RIO GRANDE BASIN

08447410 Pecos River near Langtry, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOTAL NITRITE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	SUS- PENDE SEDIM- ENT (MG/L)	SUS- PENDE SEDIM- ENT DIS- CHARGE (T/DAY)	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM
OCT									
01-31	--	1.4	--	--	--	--	--	--	--
29...	.00	--	.02	.14	.01	1.4	15	10	76
NOV									
01-30	--	1.9	--	--	--	--	--	--	--
20...	.00	--	.02	.13	.01	--	34	27	82
DEC									
01-31	--	1.8	--	--	--	--	--	--	--
10...	.00	--	.05	.07	.01	--	8	5.9	8
JAN									
01-31	--	1.6	--	--	--	--	--	--	--
14...	.01	--	.02	.00	.00	--	8	5.2	44
FEB									
01-29	--	1.2	--	--	--	--	--	--	--
03...	.00	--	.03	.30	.01	2.0	5	3.8	79
MAR									
01-31	--	1.3	--	--	--	--	--	--	--
10...	.01	--	.01	.09	.00	--	5	3.1	86
APR									
01-30	--	--	--	--	--	--	--	--	--
13...	.01	--	.05	.21	.03	--	4	2.3	24
MAY									
01-31	--	1.0	--	--	--	--	--	--	--
05...	.01	--	.02	.24	.00	--	18	9.5	52
JUN									
01-30	--	.74	--	--	--	--	--	--	--
15...	.02	--	.18	.22	.01	6.0	19	8.3	85
JUL									
01-31	--	.19	--	--	--	--	--	--	--
28...	.01	--	.01	.39	.01	--	23	47	93
AUG									
01-31	--	2.0	--	--	--	--	--	--	--
18...	.01	--	.01	.50	.01	5.6	10	12	96
SEP									
01-30	--	1.7	--	--	--	--	--	--	--
29...	.01	--	.00	.16	.01	--	10	9.7	99

DATE	TIME	DIS- SOLVED ALUM- INUM (AL) (UG/L)	TOTAL ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED HOMON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)
OCT										
01-31	--	--	--	--	230	--	--	--	--	--
29...	0815	0	1	1	220	0	0	<10	0	0
NOV										
01-30	--	--	--	--	240	--	--	--	--	--
DEC										
01-31	--	--	--	--	240	--	--	--	--	--
JAN										
01-31	--	--	--	--	200	--	--	--	--	--
FEB										
01-29	--	--	--	--	260	--	--	--	--	--
03...	0835	0	1	1	260	0	0	<10	0	0
MAR										
01-31	--	--	--	--	220	--	--	--	--	--
APR										
01-30	--	--	--	--	290	--	--	--	--	--
MAY										
01-31	--	--	--	--	250	--	--	--	--	--
JUN										
01-30	--	--	--	--	230	--	--	--	--	--
15...	0825	20	2	2	230	1	1	20	0	0
JUL										
01-31	--	--	--	--	70	--	--	--	--	--
AUG										
01-31	--	--	--	--	210	--	--	--	--	--
18...	0830	0	2	2	--	0	0	40	3	0
SEP										
01-30	--	--	--	--	250	--	--	--	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

[illegible]

RIO GRANDE BASIN

08447410 Pecos River near Langtry, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	ALDRIN		CHLOR-DANE		DDD		DDE		DDT	
		TOTAL ALDRIN (UG/L)	IN BOTTOM MA-TERIAL (UG/KG)	TOTAL CHLOR-DANE (UG/L)	IN BOTTOM MA-TERIAL (UG/KG)	TOTAL DDD (UG/L)	IN BOTTOM MA-TERIAL (UG/KG)	TOTAL DDE (UG/L)	IN BOTTOM MA-TERIAL (UG/KG)	TOTAL DDT (UG/L)	IN BOTTOM MA-TERIAL (UG/KG)
OCT 29...	0815	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB 03...	0835	ND	--	ND	--	ND	--	ND	--	ND	--
MAY 05...	0839	ND	--	ND	--	ND	--	ND	--	ND	ND
AUG 18...	0830	ND	--	ND	--	ND	--	ND	--	ND	--

DATE		DI-AZINON		DI-ELDRIN		ENDRIN		ETHION		HEPTA-CHLOR	
		TOTAL DI-AZINON (UG/L)	IN BOTTOM MA-TERIAL (UG/KG)	TOTAL DI-ELDRIN (UG/L)	IN BOTTOM MA-TERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	IN BOTTOM MA-TERIAL (UG/KG)	TOTAL ETHION (UG/L)	IN BOTTOM MA-TERIAL (UG/KG)	TOTAL HEPTA-CHLOR (UG/L)	IN BOTTOM MA-TERIAL (UG/KG)
OCT 24...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB 03...	ND	--	ND	--	ND	--	ND	--	ND	--	ND
MAY 05...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 18...	ND	--	ND	--	ND	--	ND	--	ND	--	ND

DATE		HEPTA-CHLOR EPOXIDE		LINDANE		MALA-THION		METHOXY-CHLOR		METHYL-PARA-THION	
		TOTAL HEPTA-CHLOR EPOXIDE (UG/KG)	IN BOTTOM MA-TERIAL (UG/L)	TOTAL LINDANE (UG/L)	IN BOTTOM MA-TERIAL (UG/KG)	TOTAL MALA-THION (UG/L)	IN BOTTOM MA-TERIAL (UG/KG)	TOTAL METHOXY-CHLOR (UG/L)	IN BOTTOM MA-TERIAL (UG/KG)	TOTAL METHYL-PARA-THION (UG/L)	IN BOTTOM MA-TERIAL (UG/KG)
OCT 29...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB 03...	--	ND	--	ND	--	ND	--	ND	--	ND	--
MAY 05...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 18...	--	ND	--	ND	--	ND	--	ND	--	ND	--

DATE		PARA-THION		TOX-APHENE		TRI-THION		TOTAL ATRA-ZINE (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
		TOTAL PARA-THION (UG/L)	IN BOTTOM MA-TERIAL (UG/KG)	TOTAL TOX-APHENE (UG/L)	IN BOTTOM MA-TERIAL (UG/KG)	TOTAL TRI-THION (UG/L)	IN BOTTOM MA-TERIAL (UG/KG)				
OCT 29...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB 03...	ND	--	ND	--	ND	--	ND	ND	ND	ND	ND
MAY 05...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 18...	ND	--	ND	--	ND	--	ND	ND	ND	ND	ND

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PERIPHYTON

Date	Length of exposure (days)	Biomass (g/m ²)		Chlorophyll ^a (mg/m ²)	Chlorophyll ^b (mg/m ²)	Biomass pigment ratio	Sampling method
		Dry weight	Ash weight				
NOV. 20	22	1.4	0.4	1.1	0.0	890	Polyethylene strip
JAN. 14	35	.7	.5	1.4	.2	110	Polyethylene strip
MAR. 10	36	1.7	1.5	1.1	.1	210	Polyethylene strip

08447410 Pecos River near Langtry, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

OCT. 29, 1975 0815 HOURS

PHYTOPLANKTON 1,800 CELLS/ML

_ORGANISM__NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
....OCCYSTACEAE	120	7
....ANKISTRODESMUS		
....SCENEDESMACEAE		
....SCENEDESMUS	190	11
..ZYGNEMATALES		
..DESMIDIACEAE		
....COSMARIUM	24	1
CHRYCOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
....COSCINODISCACEAE		
....CYCLOTELLA	24	1
....MELOSIRA	48	3
..PENNALES		
....ACHNANTHACEAE		
....ACHNANTHES	24	1
....COCCONEIS	24	1
....CYMBELLACEAE		
....AMPHORA	24	1
....CYMBELLA	140	8
....FRAGILARIAEAE		
....FRAGILARIA	48	3
....GOMPHONEMACEAE		
....GOMPHONEMA	48	3
....NAVICULACEAE		
....NAVICULA	190	11
....NITZSCHIAEAE		
....DENTICULA	310	18
....NITZSCHIA	72	4
CYANOPHYTA		
..MYXOPHYCEAE		
..CHROOCOCCALES		
..CHROOCOCCACEAE		
....AGMENELLUM	480	27

NOV. 20, 1975 0815 HOURS

PHYTOPLANKTON 590 CELLS/ML

_ORGANISM__NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
....OCCYSTACEAE		
....ANKISTRODESMUS	31	5
....SCENEDESMACEAE		
....SCENEDESMUS		0
..VOLVOCALLES		
..CHLAMYDOMONADACEAE		
..CHLAMYDOMONAS		0
..ZYGNEMATALES		
..DESMIDIACEAE		
....COSMARIUM		0
CHRYCOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
....COSCINODISCACEAE		
....CYCLOTELLA	62	11
..PENNALES		
....ACHNANTHACEAE		
....ACHNANTHES	31	5
....COCCONEIS	15	3
....CYMBELLACEAE		
....AMPHORA	46	8
....CYMBELLA	31	5
....NAVICULACEAE		
....AMPHIPRORA	15	3
....NAVICULA	120	21
....NITZSCHIAEAE		
....DENTICULA	120	21
....NITZSCHIA	46	8
....SURIPELLACEAE		
....SURIPELLA		0
CYANOPHYTA		
..MYXOPHYCEAE		
..CHROOCOCCALES		
..CHROOCOCCACEAE		
....ANACYSTIS	62	11

DEC. 10, 1975 0835 HOURS

PHYTOPLANKTON 280 CELLS/ML

_ORGANISM__NAME_____	CELLS/ML	PER_CENT
CHRYCOPHYTA		
..BACILLARIOPHYCEAE		
..PENNALES		
....ACHNANTHACEAE		
....ACHNANTHES	8	3
....CYMBELLACEAE		
....AMPHORA	48	17
....CYMBELLA	40	14
....GOMPHONEMACEAE		
....GOMPHONEMA	24	9
....NAVICULACEAE		
....AMPHIPRORA		0
....NAVICULA	64	23
....TROPIDONEIS	8	3
....NITZSCHIAEAE		
....DENTICULA	64	23
....NITZSCHIA	16	6
PYRRHOPHYTA		
..DINOPHYCEAE		
..PERIDINIALES		
..GLENODINIACEAE		
....GLENODINIUM	8	3

JAN. 14, 1976 0830 HOURS

PHYTOPLANKTON 330 CELLS/ML

_ORGANISM__NAME_____	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
....SCENEDESMACEAE		
....SCENEDESMUS		0
CHRYCOPHYTA		
..BACILLARIOPHYCEAE		
..PENNALES		
....ACHNANTHACEAE		
....ACHNANTHES	33	10
....CYMBELLACEAE		
....AMPHORA	33	10
....CYMBELLA	49	15
....NAVICULACEAE		
....AMPHIPRORA		0
....NAVICULA	33	10
....NITZSCHIAEAE		
....DENTICULA	160	50
....NITZSCHIA	16	5
CYANOPHYTA		
..MYXOPHYCEAE		
..CHROOCOCCALES		
..CHROOCOCCACEAE		
....AGMENELLUM		0

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

FEB. 3, 1976 0835 HOURS

PHYTOPLANKTON 1,300 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
...SCENEDESMACEAE		
...SCENEDESMUS	190	15
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..PENNALES		
...ACHNANTHACEAE		
...ACHNANTHES	190	15
...CYMBELLACEAE		
...AMPHORA	23	2
...CYMBELLA	200	15
...DIATOMACEAE		
...DIATOMA	59	5
...FRAGILARIACEAE		
...FRAGILARIA	47	4
...SYNEDRA	12	1
...NAVICULACEAE		
...AMPHIPRORA	12	1
...NAVICULA	150	12
...NITZSCHIACEAE		
...DENTICULA	23	2
...NITZSCHIA	180	14
CYANOPHYTA		
..MYXOPHYCEAE		
..CHROOCOCCALES		
...CHROOCOCCACEAE		
...AGMENELLUM	160	13
...ANACYSTIS	47	4

MAR. 10, 1976 0845 HOURS

PHYTOPLANKTON 1,200 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
...SCENEDESMACEAE		
...SCENEDESMUS	76	6
..VOLVOCELES		
...CHLAMYDOMONADACEAE		
...CHLAMYDOMONAS	38	3
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..PENNALES		
...ACHNANTHACEAE		
...ACHNANTHES	38	3
...CYMBELLACEAE		
...CYMBELLA	360	29
...FRAGILARIACEAE		
...FRAGILARIA	76	6
...NAVICULACEAE		
...AMPHIPRORA	76	6
...NAVICULA	210	17
...PINNULARIA	19	2
...NITZSCHIACEAE		
...DENTICULA	19	2
...NITZSCHIA	320	26

APR. 13, 1976 0900 HOURS

PHYTOPLANKTON 720 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
...SCENEDESMACEAE		
...SCENEDESMUS		0
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..PENNALES		
...ACHNANTHACEAE		
...ACHNANTHES	25	3
...CYMBELLACEAE		
...AMPHORA	220	31
...CYMBELLA	200	28
...NAVICULACEAE		
...AMPHIPRORA		0
...CALONEIS		0
...NAVICULA	75	10
...PINNULARIA		0
...NITZSCHIACEAE		
...DENTICULA		0
...NITZSCHIA	200	28

MAY 5, 1976 0830 HOURS

PHYTOPLANKTON 780 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
...OCCYSTACEAE		
...ANKISTHODESMUS	34	4
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..PENNALES		
...ACHNANTHACEAE		
...ACHNANTHES	34	4
...CYMBELLACEAE		
...AMPHORA	300	39
...CYMBELLA	140	17
...GOMPHONEMACEAE		
...GOMPHONEMA	68	9
...NAVICULACEAE		
...AMPHIPRORA	34	4
...NAVICULA	68	9
...NITZSCHIACEAE		
...NITZSCHIA	100	13

JUNE 15, 1976 0825 HOURS

PHYTOPLANKTON 2,800 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
...SCENEDESMACEAE		
...SCENEDESMUS	250	9
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..PENNALES		
...ACHNANTHACEAE		
...ACHNANTHES	61	2
...CYMBELLACEAE		
...AMPHORA	740	26
...CYMBELLA	980	35
...FRAGILARIACEAE		
...FRAGILARIA	61	2
...NAVICULACEAE		
...NAVICULA	120	4
...NITZSCHIACEAE		
...DENTICULA	61	2
...NITZSCHIA	550	20

JULY 28, 1976 0835 HOURS

PHYTOPLANKTON 3,100 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
...OCCYSTACEAE		
...ANKISTHODESMUS	930	30
...SCENEDESMACEAE		
...SCENEDESMUS	110	4
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...CHAETOCERACEAE		
...CHAETOCEROS	56	2
...COSCINODISCEACEAE		
...CYCLOTELLA	450	15
...MELOSIRA	680	22
..PENNALES		
...ACHNANTHACEAE		
...ACHNANTHES	28	1
...NAVICULACEAE		
...NAVICULA	85	3
...NITZSCHIACEAE		
...NITZSCHIA	510	17
CYANOPHYTA		
..MYXOPHYCEAE		
...OSCILLATORIALES		
...OSCILLATORIAEAE		
...LYNGBYA	230	7

RIO GRANDE BASIN

519

08447410 Pecos River near Langtry, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

AUG. 18, 1976 0830 HOURS

SEP. 29, 1976 0845 HOURS

PHYTOPLANKTON 550 CELLS/ML

PHYTOPLANKTON 380 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT	ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA			CHLOROPHYTA		
..CHLOROPHYCEAE			..CHLOROPHYCEAE		
...CHLOROCOCCALES			...CHLOROCOCCALES		
...OCCYSTACEAE			...OCCYSTACEAE		
...ANKISTRODESMUS	62	11	...ANKISTRODESMUS	13	3
CHRYSOPHYTA			...SCENEDESMACEAE		
..BACILLARIOPHYCEAE			...CRUCIGENIA	110	28
..PENNALES			...SCENEIDISMUS	53	14
...ACHNANTHACEAE			CHRYSOPHYTA		
...ACHNANTHES	12	2	..BACILLARIOPHYCEAE		
...FRAGILARIACEAE			..PENNALES		
...SYNEDRA	87	16	...FRAGILARIACEAE		
...NAVICULACEAE			...SYNEDRA	40	10
...NAVICULA	50	9	...NAVICULACEAE		
...NITZSCHIA			...NAVICULA	13	3
...NITZSCHIA	140	25	CYANOPHYTA		
CYANOPHYTA			..MYXOPHYCEAE		
..MYXOPHYCEAE			...CHROOCOCCALES		
...CHROOCOCCALES			...CHROOCOCCACEAE		
...CHROOCOCCACEAE			...AGMENELLUM	120	23
...AGMENELLUM			...OSCILLATORIALES		
...OSCILLATORIALES			...OSCILLATORIA		
...OSCILLATORIA	75	14			

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

MONTH	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA+MG) (MG/L)
OCT. 1975.....	7687	3080	1830	37900	690	14300	390	8060	620
NOV. 1975.....	10327	2870	1690	47100	630	17600	360	9960	580
DEC. 1975.....	8202	3210	1910	42400	720	16000	410	9050	640
JAN. 1976.....	7555	3650	2190	44700	840	17100	480	9720	720
FEB. 1976.....	6979	4430	2690	50600	1050	19700	590	11200	860
MAR. 1976.....	6957	4080	2460	46300	950	17900	540	10200	800
APR. 1976.....	6281	3690	2220	37500	850	14400	480	8150	730
MAY 1976.....	6970	3120	1860	35000	700	13200	390	7430	630
JUNE 1976.....	5084	2900	1710	23500	640	8770	360	4940	590
JULY 1976.....	38766	663	370	39200	120	12500	74	7730	170
AUG. 1976.....	14478	1920	1090	42400	380	14700	210	8340	410
SEPT 1976.....	13427	2450	1420	51600	520	18800	290	10600	510
TOTAL	132713	**	**	498000	**	185000	**	105000	**
WTD.AVG.	363.6	2360	1400	**	520	**	290	**	490

RIO GRANDE BASIN

08450900 Rio Grande below Amistad Dam near Del Rio, Tex.

LOCATION.--Lat 29°25'30", long 101°27'00", 2.2 miles (3.5 km) downstream from Amistad Dam and 10 miles (16 km) northwest of Del Rio.

PERIOD OF RECORD.--Chemical analyses: July 1968 to current year.

REMARKS.--The flow is controlled largely by releases from Amistad Reservoir. Records of daily mean discharge for water year 1976 are given in International Boundary and Water Commission Water Bulletins Nos. 45 and 46.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)
OCT										
01-31	266	1040	7.7	250	140	71	18	120	3.3	4.6
NOV										
01-30	2580	1030	7.8	250	140	72	18	120	3.3	4.8
DEC										
01-31	311	1050	7.4	270	140	78	18	120	3.2	4.8
JAN										
01-31	1160	1050	7.7	260	130	74	18	120	3.2	5.0
FEB										
01-29	2260	1050	7.7	270	140	77	18	120	3.2	4.8
MAR										
01-31	2710	1060	7.7	260	130	74	19	120	3.2	4.5
APR										
01-30	1490	1110	7.8	280	150	80	19	120	3.1	4.8
MAY										
01-31	2920	1090	7.8	260	140	74	19	120	3.2	--
JUN										
01-30	1310	1110	7.7	270	140	76	20	120	3.2	--
JUL										
01-31	1590	1080	7.7	260	140	73	20	120	3.2	--
AUG										
01-31	10770	1010	7.7	250	130	70	18	110	3.0	--
SEP										
01-30	5140	1000	8.2	240	120	67	18	110	3.1	--

DATE	RICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED BORON (B) (UG/L)
OCT									
01-31	142	0	210	130	--	16	640	.14	170
NOV									
01-30	144	0	200	130	--	16	632	--	140
DEC									
01-31	160	0	200	130	--	17	647	.07	160
JAN									
01-31	152	0	200	130	--	16	640	.42	140
FEB									
01-29	158	0	200	130	--	16	645	.19	170
MAR									
01-31	158	0	200	130	--	16	642	.14	170
APR									
01-30	162	0	220	140	--	16	680	--	210
MAY									
01-31	156	0	210	140	--	16	656	.02	160
JUN									
01-30	156	0	200	140	--	16	650	.17	260
JUL									
01-31	148	0	200	140	.8	16	645	.39	190
AUG									
01-31	144	0	190	120	.8	15	596	.15	160
SEP									
01-30	144	0	190	120	--	16	593	.11	220

RIO GRANDE BASIN

521

08459000 Rio Grande at Laredo, Tex.
(National stream-quality accounting network)

LOCATION.--Lat 27°29'45", long 99°29'30", at gaging station 1.1 miles (1.8 km) downstream from the highway bridge between Laredo and Nuevo Laredo, Tamaulipas, Mex., and 891.0 miles (1,433.6 km) downstream from the American Dam at El Paso.

DRAINAGE AREA.--135,976 mi² (352,178 km²), United States and Mexico; from International Boundary and Water Commission Water Bulletin No. 31.

PERIOD OF RECORD.--Chemical analyses: July 1955 to current year. Chemical, biochemical, and sediment analyses: January 1973 to current year. Water temperatures: October 1974 to current year.

EXTREMES.--Current year: Maximum daily specific conductance, 1,280 micromhos Mar. 1; minimum daily, 338 micromhos July 24.
Period of record: Maximum daily specific conductance, 1,690 micromhos June 1, 1963; minimum daily, 214 micromhos Sept. 26, 1964.

REMARKS.--Records of discharge for water year 1976 are given in International Boundary and Water Commission Water Bulletins Nos. 45 and 46.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)	IMME- DIATE COLI- FORM (COL. PER 100 ML)
OCT										
01-31	--	3480	900	7.8	--	--	--	--	--	--
20...	1700	4200	916	7.8	24.0	40	8.3	98	1.2	330
NOV										
01-30	--	3970	994	7.9	--	--	--	--	--	--
17...	1500	2430	1010	8.1	22.0	18	9.4	107	2.1	700
DEC										
01-31	--	1080	937	8.0	--	--	--	--	--	--
08...	1210	1100	981	8.0	17.5	5	9.6	100	1.3	17000
JAN										
01-31	--	1850	963	7.8	--	--	--	--	--	--
19...	1220	1900	992	8.0	15.0	15	9.8	96	1.1	340
FEB										
01-29	--	2420	1040	8.0	--	--	--	--	--	--
23...	1410	900	1120	8.0	16.5	10	9.6	98	1.1	24000
MAR										
01-31	--	3190	1090	7.9	--	--	--	--	--	--
22...	1340	1680	1080	8.0	19.5	10	8.8	95	.7	5000
APR										
01-30	--	2210	1050	7.8	--	--	--	--	--	--
26...	1315	6000	1020	7.8	25.0	170	7.3	87	1.4	2000
MAY										
01-31	--	4760	940	7.7	--	--	--	--	--	--
24...	1220	3670	1050	8.0	26.5	75	7.4	91	5.5	290
JUN										
01-30	--	1670	1120	7.8	--	--	--	--	--	--
21...	1405	1750	1070	8.1	31.0	50	7.6	103	2.2	7800
JUL										
01-31	--	13620	511	7.9	--	--	--	--	--	--
19...	1230	39000	395	7.5	27.0	370	5.9	75	3.3	19000
AUG										
01-31	--	12920	869	7.8	--	--	--	--	--	--
16...	1250	4870	637	7.8	28.5	55	7.3	95	2.5	10000
SEP										
01-30	--	8740	897	8.0	--	--	--	--	--	--
20...	1240	4730	810	7.8	27.5	45	7.8	100	.9	360

RIO GRANDE BASIN

08459000 Rio Grande at Laredo, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	FECAL COLIFORM (COL. PER 100 ML)	STREPTOCOCCI (COL. PER 100 ML)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)
OCT									
01-31	--	--	250	130	73	17	90	2.5	--
20...	87	71	260	130	76	17	93	2.5	3.8
NOV									
01-30	--	--	270	130	77	18	110	2.9	--
17...	28	28	270	140	77	18	110	2.9	4.2
DEC									
01-31	--	--	260	130	73	20	90	2.4	--
08...	2300	3600	310	150	91	19	90	2.2	3.3
JAN									
01-31	--	--	270	140	76	19	98	2.6	--
19...	56	68	290	150	84	19	100	2.6	3.6
FEB									
01-29	--	--	270	140	75	19	110	2.9	--
23...	4200	2300	300	170	86	21	130	3.3	4.6
MAR									
01-31	--	--	280	150	81	19	120	3.1	4.4
22...	480	1100	310	170	86	22	120	3.0	4.6
APR									
01-30	--	--	290	160	86	19	110	2.8	--
26...	180	330	290	150	85	18	110	2.8	4.6
MAY									
01-31	--	--	250	130	71	17	89	2.5	--
24...	88	100	290	150	83	20	110	2.8	4.6
JUN									
01-30	--	--	290	170	78	22	120	3.1	--
21...	1200	360	300	170	83	22	130	3.3	4.8
JUL									
01-31	--	--	180	54	59	8.3	32	1.0	--
19...	4600	7900	160	30	53	5.9	19	.7	2.9
AUG									
01-31	--	--	240	120	70	16	83	2.3	--
16...	1300	2000	220	92	66	12	52	1.5	2.7
SEP									
01-30	--	--	230	110	67	16	85	2.4	--
20...	68	190	240	100	71	15	71	2.0	3.3
DATE	RICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SI02) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	TOTAL NITRATE (N) (MG/L)
OCT									
01-31	152	0	--	100	--	--	--	--	--
20...	163	0	180	110	--	16	695	576	.55
NOV									
01-30	162	0	--	120	--	--	--	--	--
17...	160	0	190	110	1.0	16	608	605	.41
DEC									
01-31	160	0	--	96	--	--	--	--	--
08...	194	0	180	100	.5	13	616	592	.23
JAN									
01-31	156	0	--	100	--	--	--	--	--
19...	174	0	190	110	.6	9.8	634	603	.33
FEB									
01-29	156	0	--	130	--	--	--	--	--
23...	167	0	240	140	.9	15	696	721	.45
MAR									
01-31	164	0	220	130	--	17	--	675	--
22...	166	0	230	140	.8	15	710	700	.32
APR									
01-30	164	0	--	120	--	--	--	--	--
26...	167	0	210	130	.8	16	662	658	.62
MAY									
01-31	148	0	--	110	--	--	--	--	--
24...	169	0	200	130	.6	15	666	647	.54
JUN									
01-30	144	0	--	130	--	--	--	--	--
21...	162	0	250	140	.8	19	766	731	.26
JUL									
01-31	156	0	--	40	--	--	--	--	--
19...	154	0	40	25	.3	10	252	232	.66
AUG									
01-31	150	0	--	98	--	--	--	--	--
16...	150	0	99	60	.4	15	412	382	1.3
SEP									
01-30	156	0	160	100	--	16	--	522	--
20...	170	0	130	82	.5	16	441	473	.76

08459000 Rio Grande at Laredo, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOTAL NITRITE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	SUS- PENDED SEDI- MENT DIS- CHARGE (T/DAY)	SUS- PENDED SEDI- MENT DIS- CHARGE (T/DAY)	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM
OCT									
01-31	--	--	--	--	--	--	--	--	--
20...	.00	--	.01	.39	.09	--	96	1090	83
NOV									
01-30	--	--	--	--	--	--	--	--	--
17...	.01	--	.00	.20	.03	--	26	171	99
DEC									
01-31	--	--	--	--	--	--	--	--	--
08...	.00	--	.02	.16	.03	--	17	50	50
JAN									
01-31	--	--	--	--	--	--	--	--	--
19...	.01	--	.01	.53	.02	--	55	282	77
FEB									
01-29	--	--	--	--	--	--	--	--	--
23...	.01	--	.03	.21	.02	1.8	16	39	93
MAR									
01-31	--	.48	--	--	--	--	--	--	--
22...	.01	--	.01	.28	.01	--	22	100	92
APR									
01-30	--	--	--	--	--	--	--	--	--
26...	.01	--	.06	.64	.14	8.8	359	5820	94
MAY									
01-31	--	--	--	--	--	--	--	--	--
24...	.01	--	.03	.38	.09	--	146	1450	95
JUN									
01-30	--	--	--	--	--	--	--	--	--
21...	.01	--	.03	.42	.05	3.0	87	411	98
JUL									
01-31	--	--	--	--	--	--	--	--	--
19...	.01	--	.06	2.1	.20	--	1540	162000	92
AUG									
01-31	--	--	--	--	--	--	--	--	--
16...	.01	--	.01	.26	.03	1.6	118	1550	94
SEP									
01-30	--	.31	--	--	--	--	--	--	--
20...	.00	--	.05	.45	.03	--	197	2520	72

DATE	TIME	DIS- SOLVED ALUM- INUM (AL) (UG/L)	TOTAL ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)
FEB.										
23...	1410	60	4	3	200	0	0	<10	0	0
MAR.										
01-31	--	--	--	--	190	--	--	--	--	--
APR.										
26...	1315	30	--	2	160	1	1	10	0	4
JUNE										
21...	1405	30	5	3	190	0	0	20	1	0
AUG.										
16...	1250	10	2	2	140	0	0	20	9	0

DATE	DIS- SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)
FEB.									
23...	0	5	1	360	30	0	0	40	20
MAR.									
01-31	--	--	--	--	--	--	--	--	--
APR.									
26...	0	14	1	5500	0	9	0	40	150
JUNE									
21...	0	5	2	1600	0	5	0	40	50
AUG.									
16...	0	4	0	1400	10	5	0	20	370

DATE	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	DIS- SOLVED SELE- NIUM (SE) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)
FEB.									
23...	10	.1	.1	0	1	0	1200	30	0
MAR.									
01-31	--	--	--	--	--	--	--	--	--
APR.									
26...	0	.3	.2	0	0	0	1400	40	10
JUNE									
21...	20	.3	.3	0	1	0	1700	50	20
AUG.									
16...	0	.4	.3	0	0	0	870	30	10

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

OCT. 20, 1975 1700 HOURS

PHYTOPLANKTON 2,100 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...HYDRODICTYACEAE		
....PEDIASTRUM	670	31
...OCCYSTACEAE		
...ANKISTRODESMUS	90	4
...VOLVOCALES		
...CHLAMYDOMONADACEAE		
...CHLAMYDOMONAS	45	2
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINODISCAEAE		
....CYCLOTELLA	180	8
....MELOSIRA	90	4
..PENNALES		
...CYMBELLACEAE		
....CYMBELLA	45	2
...NAVICULACEAE		
....GYROSIGMA	45	2
....NAVICULA	360	17
...NITZSCHIAEAE		
....NITZSCHIA	580	27
PYRRHOPHYTA		
..DINOPHYCEAE		
..PERIDINIALES		
...PERIDINIAEAE		
....PERIDINIUM	45	2

NOV. 17, 1975 1500 HOURS

PHYTOPLANKTON 62 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...OCCYSTACEAE		
...ANKISTRODESMUS	7	11
...TETRAEDRON	7	11
...SCENEDESMACEAE		
...SCENEDESMUS	7	11
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINODISCAEAE		
....CYCLOTELLA	7	11
..PENNALES		
...CYMBELLACEAE		
....CYMBELLA	7	11
...DIATOMACEAE		
....DIATOMA		0
...GOMPHONEMACEAE		
...GOMPHONEMA	7	11
...NAVICULACEAE		
....NAVICULA	7	11
...NITZSCHIAEAE		
....NITZSCHIA	7	11
...SURIPELLACEAE		
....SURIPELLA	7	11

DEC. 8, 1975 1210 HOURS

PHYTOPLANKTON 84 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..PENNALES		
...DIATOMACEAE		
....DIATOMA		0
...FRAGILARIACEAE		
....SYNEDRA		0
...NAVICULACEAE		
....GYROSIGMA		0
...NITZSCHIAEAE		
....NITZSCHIA	84	100

JAN. 19, 1976 1200 HOURS

PHYTOPLANKTON 120 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..PENNALES		
...ACHNANTHACEAE		
....ACHNANTHES		0
...COCCONEIS	6	5
...CYMBELLACEAE		
....CYMBELLA	17	14
...DIATOMACEAE		
....DIATOMA	56	45
...FRAGILARIACEAE		
....SYNEDRA		0
...NAVICULACEAE		
....GYROSIGMA		0
....NAVICULA	6	5
...NITZSCHIAEAE		
....NITZSCHIA	40	32

FEB. 23, 1976 1410 HOURS

PHYTOPLANKTON 130 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...SCENEDESMACEAE		
...SCENEDESMUS	19	15
...VOLVOCALES		
...CHLAMYDOMONADACEAE		
...CHLAMYDOMONAS	10	8
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..PENNALES		
...ACHNANTHACEAE		
....COCCONEIS	5	4
...CYMBELLACEAE		
....AMPHORA	15	12
...CYMBELLA		
...DIATOMACEAE		
....DIATOMA		0
...FRAGILARIACEAE		
....SYNEDRA	5	4
...NAVICULACEAE		
....NAVICULA	24	19
...NITZSCHIAEAE		
....NITZSCHIA	48	38
EUGLENOPHYTA		
..CRYPTOPHYCEAE		
...CRYPTOMONIDALES		
...CRYPTOMONODACEAE		
....CRYPTOMONAS		0

MAR. 22, 1976 1340 HOURS

PHYTOPLANKTON 110 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
...COSCINODISCAEAE		
....CYCLOTELLA		0
..PENNALES		
...ACHNANTHACEAE		
....COCCONEIS		0
...NITZSCHIAEAE		
....NITZSCHIA	110	100

08459000 Rio Grande at Laredo, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

APR. 26, 1976 1315 HOURS

PHYTOPLANKTON 1,900 CELLS/ML

ORGANISM NAME	CELLS/ML	PER CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
...SCENEDESMACEAE		
...SCENEDESMUS	100	5
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCEAE		
...CYCLOTELLA	17	1
..PENNALES		
...ACHNANTHACEAE		
...ACHNANTHES	17	1
...COCCONEIS	34	2
...CYMBELLACEAE		
...CYMBELLA	180	10
..DIATOMACEAE		
...DIATOMA	130	7
..GOMPHONEMACEAE		
...GOMPHONEMA	50	3
..NAVICULACEAE		
...GYROSIGMA	34	2
...NAVICULA	230	12
..NITZSCHIAEAE		
...NITZSCHIA	550	29
CYANOPHYTA		
..MYXOPHYCEAE		
..CHROOCOCCALES		
..CHROOCOCCACEAE		
...AGMENELLUM	270	14
..OSCILLATORIALES		
..OSCILLATORIAEAE		
...OSCILLATORIA	250	13
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
..EUGENALES		
..EUGENACEAE		
...EUGLENA	17	1

MAY 24, 1976 1220 HOURS

PHYTOPLANKTON 2,100 CELLS/ML

ORGANISM NAME	CELLS/ML	PER CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
...HYDRODICTYACEAE		
...PEDIASTRUM	350	17
...OCCYSTACEAE		
...DICTYOSPHAERIUM	87	4
...OCCYSTIS	170	9
..SCENEDESMACEAE		
...SCENEDESMUS	22	1
..VOLVOCALES		
..VOLVOCAEAE		
..PANDORINA		0
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCEAE		
...CYCLOTELLA	440	21
...MELOSIPA	570	28
..PENNALES		
...CYMBELLACEAE		
...CYMBELLA	22	1
..DIATOMACEAE		
...DIATOMA	22	1
..GOMPHONEMACEAE		
...GOMPHONEMA	22	1
..NITZSCHIAEAE		
...NITZSCHIA	240	12
CHRYSOPHYCEAE		
..CHRYSONOMADALES		
..OCHROMONADACEAE		
...OCHROMONAS	22	1
CYANOPHYTA		
..MYXOPHYCEAE		
..CHROOCOCCALES		
..CHROOCOCCACEAE		
...ANACYSTIS	87	4

JUNE 21, 1976 1405 HOURS

PHYTOPLANKTON 2,200 CELLS/ML

ORGANISM NAME	CELLS/ML	PER CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
...OCCYSTACEAE		
...ANKISTRODESMUS	180	8
..SCENEDESMACEAE		
...ACTINASTRUM		0
...SCENEDESMUS		0
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCEAE		
...CYCLOTELLA	60	3
..PENNALES		
...NAVICULACEAE		
...NAVICULA	120	5
..NITZSCHIAEAE		
...NITZSCHIA	1,800	81
CYANOPHYTA		
..MYXOPHYCEAE		
..OSCILLATORIALES		
..OSCILLATORIAEAE		
...SPIRULINA	60	3

JULY 19, 1976 1230 HOURS

PHYTOPLANKTON 1,300 CELLS/ML

ORGANISM NAME	CELLS/ML	PER CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
...OCCYSTACEAE		
...ANKISTRODESMUS	190	14
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..PENNALES		
...CYMBELLACEAE		
...CYMBELLA	190	14
..NAVICULACEAE		
...NAVICULA	380	29
..NITZSCHIAEAE		
...NITZSCHIA	190	14
...DENTICULA	380	29

08459000 Rio Grande at Laredo, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

AUG. 16, 1976 1250 HOURS

PHYTOPLANKTON 500 CELLS/ML

ORGANISM_NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...CHAMACIACEAE		
...SCHROEDERIA		0
...OCCYSTACEAE		
...ANKISTRODESMUS	18	4
...SCENEDESMACEAE		
...SCENEDESMUS	160	33
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
...PENNALES		
...CYMBELLACEAE		
...AMPHORA	9	2
...DIATOMACEAE		
...DIATOMA		0
...FRAGILARIACEAE		
...SYNEDRA	18	4
...NAVICULACEAE		
...NAVICULA	18	4
...NITZSCHACEAE		
...NITZSCHIA	270	55

SEP. 20, 1976 1240 HOURS

PHYTOPLANKTON 480 CELLS/ML

ORGANISM_NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
...CHLOROCOCCALES		
...OCCYSTACEAE		
...OCCYSTIS	58	12
...SCENEDESMACEAE		
...SCENEDESMUS	140	30
...TETRASPORALES		
...PALMELLACEAE		
...GLOEOCYSTIS	14	3
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
...CENTRALES		
...COSCINODISCACEAE		
...CYCLOTELLA	14	3
...PENNALES		
...CYMBELLACEAE		
...CYMBELLA	14	3
...NITZSCHACEAE		
...NITZSCHIA	170	36
CYANOPHYTA		
..MYXOPHYCEAE		
...CHROOCOCCALES		
...CHROOCOCCACEAE		
...ANACYSTIS	58	12

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

MONTH	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA+MG) (MG/L)
OCT. 1975.....	107710	898	560	164000	98	28400	180	51000	250
NOV. 1975.....	119040	992	620	201000	110	36000	200	64900	270
DEC. 1975.....	33528	936	590	53300	100	9450	190	16900	260
JAN. 1976.....	57380	962	610	93800	110	17100	190	29900	260
FEB. 1976.....	69680	1030	650	122000	120	22700	210	39700	280
MAR. 1976.....	98911	1090	690	184000	130	35400	230	60800	290
APR. 1976.....	66272	1050	660	119000	120	22300	220	38800	280
MAY 1976.....	147450	936	590	234000	110	42400	190	74100	260
JUNE 1976.....	50090	1120	710	96100	140	18600	240	31800	290
JULY 1976.....	422290	499	300	341000	39	45000	69	78900	180
AUG. 1976.....	400410	869	540	587000	95	103000	170	181000	250
SEPT 1976.....	262230	906	570	402000	100	70800	180	126000	250
TOTAL	1834991	**	**	2600000	**	451000	**	794000	**
WTD.AVG.	5027.37	840	520	**	91	**	160	**	240

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

[illegible]

RIO GRANDE BASIN

08461300 Rio Grande below Falcon Dam, Tex.

LOCATION.--Lat 26°33'25", long 99°10'05", U.S. Tailrace at Falcon Dam.

DRAINAGE AREA.--164,482 mi² (426,008 km²), United States and Mexico; from International Boundary and Water Commission Water Bulletin No. 31.

PERIOD OF RECORD.--Chemical analyses: July 1955 to current year.

REMARKS.--Records of specific conductance and discharge for water year 1976 are given in International Boundary and Water Commission Water Bulletins Nos. 45 and 46.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)
OCT										
01-31	1410	902	7.7	240	130	67	17	93	2.6	4.3
NOV										
01-30	765	919	7.8	240	130	67	18	95	2.7	4.8
DEC										
01-31	834	930	7.9	240	130	67	18	95	2.7	4.8
JAN										
01-31	3690	944	7.8	240	130	69	17	95	2.7	4.8
FEB										
01-29	4960	951	7.7	250	130	70	18	99	2.7	4.6
MAR										
01-31	2970	979	7.8	250	130	71	18	100	2.7	4.5
APR										
01-30	1330	999	7.7	270	140	75	19	100	2.7	4.8
MAY										
01-31	1550	1010	7.8	260	140	72	20	100	2.7	--
JUN										
01-30	3210	1020	7.9	260	140	73	20	110	2.9	--
JUL										
01-31	4920	1030	7.8	260	150	72	20	110	3.0	--
AUG										
01-31	24050	938	7.7	250	140	68	19	92	2.5	--
SEP										
01-30	4670	846	7.7	220	110	63	16	76	2.2	--

DATE	HICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED BORON (B) (UG/L)
OCT									
01-31	136	0	190	96	--	12	547	.00	190
NOV									
01-30	136	0	190	98	--	13	553	--	220
DEC									
01-31	140	0	190	99	--	12	555	.01	190
JAN									
01-31	140	0	200	100	--	12	567	.09	190
FEB									
01-29	142	0	200	100	--	12	574	.03	180
MAR									
01-31	146	0	200	110	--	12	588	.02	260
APR									
01-30	148	0	210	110	--	12	604	--	240
MAY									
01-31	144	0	210	110	--	12	596	.08	250
JUN									
01-30	148	0	200	110	--	12	599	.10	240
JUL									
01-31	136	0	220	120	.6	13	623	.01	190
AUG									
01-31	136	0	190	100	.6	12	549	.11	200
SEP									
01-30	140	0	160	90	--	13	488	.10	220

RIO GRANDE BASIN

529

08464700 Rio Grande at Fort Ringgold, Rio Grande City, Tex.

LOCATION.--Lat 26°22'05", long 98°48'20", Starr County, at gaging station about 1 mile (2 km) downstream from Rio Grande City, 3.9 miles (6.3 km) downstream from mouth of Rio San Juan, and 1,014.3 miles (1,632.0 km) downstream from the American Dam at El Paso.

DRAINAGE AREA.--180,396 mi² (467,226 km²), United States and Mexico; from International Boundary and Water Commission Water Bulletin No. 31.

PERIOD OF RECORD.--Chemical analyses: January 1959 to current year.

REMARKS.--Records of specific conductance and discharge for water year 1976 are given in International Boundary and Water Commission Water Bulletins Nos. 45 and 46.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICHO- MHOS)	PH (UNITS)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)
OCT 01-31	2940	882	7.7	246	120	69	17	85	2.4	3.8
NOV 01-30	912	1050	7.7	260	140	73	19	120	3.2	4.5
DEC 01-31	992	1070	8.2	276	140	77	19	110	2.9	4.0
JAN 01-31	3490	967	7.8	250	130	72	17	95	2.6	4.8
FEB 01-29	5170	992	8.0	260	140	73	18	99	2.7	4.6
MAR 01-31	3260	1010	7.8	260	140	74	18	110	3.0	4.5
APR 01-30	1460	1050	8.0	280	140	80	19	110	2.9	4.8
MAY 01-31	1440	1070	7.9	270	150	74	20	110	2.9	--
JUN 01-30	3450	1040	8.0	280	150	78	20	110	2.9	--
JUL 01-31	9330	972	8.1	270	150	74	20	95	2.5	4.2
AUG 01-31	24400	926	7.8	256	130	69	18	92	2.6	--
SEP 01-30	6600	884	7.9	230	110	65	17	85	2.4	--

DATE	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED NITRATE PLUS NITRITE (N) (MG/L)	DIS- SOLVED BORON (B) (UG/L)
OCT 01-31	148	0	170	91	--	12	521	.05	200
NOV 01-30	148	0	210	130	--	13	643	--	300
DEC 01-31	164	0	200	130	--	14	637	.48	260
JAN 01-31	148	0	200	100	--	12	574	.01	130
FEB 01-29	148	0	200	110	--	12	590	.00	200
MAR 01-31	146	0	230	120	--	12	642	.00	1700
APR 01-30	168	0	210	120	--	13	640	--	300
MAY 01-31	144	0	210	120	--	13	618	.01	260
JUN 01-30	158	0	210	120	--	13	629	--	10
JUL 01-31	144	0	190	110	.5	11	576	.01	190
AUG 01-31	138	0	190	100	.6	12	550	.13	190
SEP 01-30	144	0	170	96	--	13	518	.22	260

RIO GRANDE BASIN

08469200 Rio Grande at Anzalduas Dam, Tex.

LOCATION.--Lat 26°08'00", long 98°20'05", Hidalgo County, at gaging station 0.5 mile (0.8 km) downstream from Anzalduas Dam, 12.2 miles (19.6 km) from Hidalgo, and 1,077.1 miles (1,733.1 km) downstream from the American Dam at El Paso.

DRAINAGE AREA.--182,138 mi² (471,737 km²), United States and Mexico; from International Boundary and Water Commission Water Bulletin No. 31.

PERIOD OF RECORD.--Chemical analyses: March 1959 to current year. Pesticide analyses: October 1968 to September 1971.

REMARKS.--Records of specific conductance and discharge for water year 1976 are given in International Boundary and Water Commission Water Bulletins Nos. 45 and 46.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)
OCT										
01-31	2440	1120	7.8	270	150	77	20	130	3.4	4.0
NOV										
01-30	919	1370	7.8	320	180	85	25	160	3.9	4.6
DEC										
01-31	861	1370	7.9	320	180	89	24	160	3.9	4.8
JAN										
01-31	1810	1140	7.8	270	150	77	20	130	3.4	4.8
FEB										
01-29	1720	1070	7.7	270	140	75	19	120	3.2	4.8
MAR										
01-31	1460	1150	7.9	280	160	79	21	130	3.4	4.6
APR										
01-30	835	1470	7.9	340	210	92	26	180	4.3	5.5
MAY										
01-31	1150	1490	7.8	330	200	90	25	190	4.6	--
JUN										
01-30	2480	1210	7.8	290	170	81	22	140	3.6	--
JUL										
01-31	9060	967	7.8	260	150	73	20	100	2.7	--
AUG										
01-31	19650	986	7.8	260	140	74	19	100	2.7	--
SEP										
01-30	5780	935	7.8	240	120	68	17	100	2.8	--

DATE	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED BORON (B) (UG/L)
OCT									
01-31	148	0	220	150	--	12	488	.33	300
NOV									
01-30	168	0	250	200	--	14	422	--	450
DEC									
01-31	172	0	250	200	--	14	429	.39	350
JAN									
01-31	148	0	230	150	--	13	699	.29	240
FEB									
01-29	152	0	230	130	--	12	666	.00	180
MAR									
01-31	152	0	240	140	--	12	703	.22	280
APR									
01-30	160	0	250	220	--	13	466	--	540
MAY									
01-31	156	0	310	200	--	13	406	.20	500
JUN									
01-30	156	0	240	150	--	13	725	.11	220
JUL									
01-31	140	0	190	110	.5	11	575	.29	210
AUG									
01-31	148	0	200	110	.6	12	589	.17	210
SEP									
01-30	150	0	180	110	--	13	564	.32	240

RIO GRANDE BASIN

531

08470200 North Floodway near Sebastian, Tex.

LOCATION.--Lat 26°18'51", long 97°46'36", Cameron County, at International Boundary and Water Commission gaging station on U.S. Highway 77 and approximately 2 miles (3 km) south of Sebastian.

PERIOD OF RECORD.--Sediment records: February 1966 to current year.

REMARKS.--Records of discharge are given in International Boundary and Water Commission Water Bulletins Nos. 45 and 46.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	TEMPER- ATURE (DEG C)	SUS- PENDED SEDIM- ENT (MG/L)	SUS- PENDED SEDI- MENT DIS- CHARGE (T/DAY)	SUS- SED. SIEVE DIAM. % FINER THAN .062 MM
AUG						
04...	1430	234	30.0	154	97	94
11...	1010	150	27.0	103	42	94
14...	1930	153	29.0	210	87	99
25...	0800	9340	26.0	269	6780	79
26...	0830	9910	22.0	170	4550	75
30...	1100	9620	25.0	208	5400	75
SEP						
08...	1000	303	27.0	210	172	94
15...	1000	377	27.0	310	316	83
22...	0700	2540	24.0	241	1650	77
29...	0900	258	26.0	249	173	74

MONTHLY AND ANNUAL SUMMARY OF WATER AND SUSPENDED-SEDIMENT DISCHARGE

WATER YEAR, OCTOBER 1975 TO SEPTEMBER 1976

DATE	DISCHARGE (CFS-DAYS)	MEAN WEIGHTED SUSPENDED SEDIMENT CONCENTRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS)
OCT. 1975...	5645	199	3030
NOV. 1975...	4342	142	1660
DEC. 1975...	4020	90	978
JAN. 1976...	3920	108	1140
FEB. 1976...	4238	131	1500
MAR. 1976...	4650	146	1830
APR. 1976...	4721	183	2330
MAY 1976...	7323	257	5080
JUNE 1976...	2620	125	884
JULY 1976...	12068	255	8310
AUG. 1976...	85358	227	52400
SEPT 1976...	19646	213	11300
TOTAL.....	158551	211	90400

RIO GRANDE BASIN

08470300 Arroyo Colorado Floodway south of Mercedes, Tex.

LOCATION.--Lat 26°07'45", long 97°54'45", at International Boundary and Water Commission gaging station, 50 ft (15 m) upstream from Mercedes Canal Fuste Siphon on Arroyo Colorado, approximately 1.4 miles (2.3 km) downstream from Arroyo Colorado heading on the main floodway, and 1.5 miles (2.4 km) south of Mercedes.

PERIOD OF RECORD.--Chemical analyses: November 1967 to February 1968. Pesticide analyses: May 1968 to September 1973, October 1975 to current year. Sediment records: February 1966 to current year.

REMARKS.--Records of discharge are given in International Boundary and Water Commission Water Bulletins Nos. 45 and 46.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL PCB (UG/L)	PCR IN BOTTOM MA- TERIAL (UG/KG)	POLY- CHLO- RINATED NAPH- THA- LENES (UG/L)	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL CHLOR- DANE (UG/L)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDD (UG/L)	DDD IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDE (UG/L)	DDE IN BOTTOM MA- TERIAL (UG/KG)
OCT. 21...	1245	.0	12	--	.00	.0	.0	59	.00	19	.04	67
FEB. 24...	0905	.0	0	.00	.00	.0	.0	0	.00	2.5	.03	20
APR. 27...	0850	.0	--	.00	.00	--	.0	--	.00	--	.03	--
JUNE 22...	0845	.0	--	.00	.00	--	.0	--	.00	--	.00	--
AUG. 17...	0905	.0	0	.00	.00	.0	.0	0	.00	.3	.03	4.5
DATE		DDT IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	TOTAL DDT IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ETHION (UG/L)	TOTAL HEPTA- CHLOR (UG/L)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG)
OCT. 21...	.00	.0	.03	.00	6.1	.00	2.1	.00	.00	.0	.00	.0
FEB. 24...	.00	.0	.01	.00	1.1	.02	2.7	.00	.00	.0	.00	.0
APR. 27...	.00	--	.00	.00	--	.00	--	.00	.00	--	.00	--
JUNE 22...	.00	--	.00	.00	--	.00	--	.00	.00	--	.00	--
AUG. 17...	.00	.2	.02	.01	.0	.01	.0	.00	.00	.0	.00	.0
DATE		LINDANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL TOX- APHENE (UG/L)	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
OCT. 21...	.00	.0	.00	.00	.00	.00	0	0	.00	.00	.00	.00
FEB. 24...	.00	.0	.00	.00	.00	.07	0	0	.00	.00	.01	.00
APR. 27...	.00	--	.00	.00	.00	.07	0	--	.00	.00	.00	.00
JUNE 22...	.00	--	.00	.62	.00	.02	0	--	.00	.00	.00	.00
AUG. 17...	.00	.0	.00	.02	.00	.00	0	0	.00	.00	.00	.00

MONTHLY AND ANNUAL SUMMARY OF WATER AND SUSPENDED-SEDIMENT DISCHARGE

WATER YEAR, OCTOBER 1975 TO SEPTEMBER 1976

DATE	DISCHARGE (CFS-DAYS)	MEAN WEIGHTED SUSPENDED SEDIMENT CONCENTRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS)
OCT. 1975...	4936	92	1230
NOV. 1975...	4258	69	790
DEC. 1975...	4064	62	676
JAN. 1976...	3797	99	1020
FEB. 1976...	3819	82	843
MAR. 1976...	4297	86	1000
APR. 1976...	3716	107	1070
MAY 1976...	4420	85	1020
JUNE 1976...	4296	103	1200
JULY 1976...	15689	182	7700
AUG. 1976...	25996	276	19400
SEPT 1976...	14771	188	7500
TOTAL.....	94059	171	43400

RIO GRANDE BASIN

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08475000 Rio Grande near Brownsville, Tex.
(National stream-quality accounting network)

LOCATION.--Lat 25°52'35", long 97°27'15", Cameron County, at International Boundary and Water Commission gaging station, 1,000 ft (300 m) downstream from El Jardin pumping plant, 6.8 miles (10.9 km) below International Bridge between Brownsville and Matamoras, Tamps., Mex., and 48.8 miles (78.5 km) above the Gulf of Mexico.

PERIOD OF RECORD.--Chemical analyses: October 1967 to January 1968, October 1974 to September 1975. Specific conductance: April 1967 to October 1969, October 1970 to current year. Water temperatures: October 1966 to September 1969, October 1970 to current year. Sediment records: February 1966 to current year.

EXTREMES.--Current year: Maximum daily specific conductance, 1,840 micromhos June 11, 12; minimum daily, 719 micromhos Sept. 24. Maximum daily sediment concentrations, 1,640 mg/l July 15; minimum daily, 10 mg/l Jan. 8. Maximum daily sediment loads, 44,700 tons Aug. 29; minimum daily, 1.6 tons June 19.

Period of record: Maximum daily specific conductance, 4,130 micromhos May 29, 1972; minimum daily, 337 micromhos Sept. 3, 1967. Maximum water temperatures (1966-69, 1970-75), 33.0°C on many days during summer months of 1968, 1973, and 1975; minimum, 8.0°C Jan. 10, 1967. Maximum daily sediment concentrations, 3,560 mg/l Sept. 16, 1971; minimum daily, 4 mg/l Apr. 26, 1970. Maximum daily sediment loads, 83,500 tons Sept. 16, 1971; minimum daily, 0.55 tons May 24, 1975.

REMARKS.--Records of discharge furnished by International Boundary and Water Commission.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	DIOCHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	IMMEDIATE COLIFORM (COL. PER 100 ML)	FECAL COLIFORM (COL. PER 100 ML)	STREPTOCOCCI (COL. ONIFS PER 100 ML)
OCT 21...	1600	990	1270	7.8	26.5	6	8.9	109	3.8	1800	260	40
NOV 02...	1700	1300	--	--	30.0	--	--	--	--	--	--	--
18...	1430	450	1530	7.7	22.5	20	8.5	97	6.1	92000	3500	1300
DEC 09...	1130	220	1510	7.5	19.5	15	7.4	80	4.4	600000	35000	23000
JAN 20...	1115	250	1600	7.6	18.1	15	6.6	69	4.8	600000	250000	16000
FEB 24...	1035	460	1330	7.6	17.5	25	7.8	81	6.6	28000	1200	220
MAR 23...	1015	140	1350	7.7	21.0	20	6.4	71	5.5	400000	3400	760
APR 27...	1045	260	1610	7.7	26.5	20	6.8	83	5.9	68000	35000	3000
MAY 03...	1830	3050	--	--	25.0	--	--	--	--	--	--	--
25...	0945	900	1410	7.9	27.5	65	7.2	90	6.0	62000	7500	1600
JUN 22...	1110	190	1540	7.3	30.5	4	3.5	47	7.5	1750000	164000	12500
JUL 15...	1845	7700	--	--	27.5	--	--	--	--	--	--	--
26...	1035	8300	806	7.6	28.0	250	6.0	77	4.6	18000	2000	800
27...	1815	12300	--	--	28.5	--	--	--	--	--	--	--
AUG 04...	0715	13100	--	--	28.5	--	--	--	--	--	--	--
12...	1830	12600	--	--	29.0	--	--	--	--	--	--	--
17...	1115	12600	963	7.6	28.5	160	6.3	82	1.8	14000	1200	1000
31...	1800	14000	--	--	29.5	--	--	--	--	--	--	--
SEP 08...	0715	4700	--	--	30.0	--	--	--	--	--	--	--
21...	1030	7900	856	7.4	28.0	120	6.9	88	1.8	18000	1300	460

08475000 Rio Grande at Brownsville, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)
OCT 21...	310	160	86	24	150	3.7	4.5	187	0	230	170	--
NOV 02...	--	--	--	--	--	--	--	--	--	--	--	--
14...	390	210	110	28	180	4.0	6.5	222	0	260	230	.5
DEC 09...	420	230	120	28	170	3.6	5.4	230	0	260	230	.6
JAN 20...	450	250	130	31	180	3.7	6.5	250	0	280	230	.6
FEB 24...	360	190	100	27	140	3.2	5.3	214	0	250	180	.7
MAR 23...	400	220	110	30	160	3.5	5.8	218	0	270	190	.7
APR 27...	450	250	120	35	180	3.7	6.5	234	0	300	250	.7
MAY 03...	--	--	--	--	--	--	--	--	--	--	--	--
25...	330	200	92	25	170	4.1	5.3	158	0	280	210	.6
JUN 22...	410	230	110	32	200	4.3	6.5	218	0	310	230	.7
JUL 15...	--	--	--	--	--	--	--	--	--	--	--	--
20...	240	130	67	18	72	2.0	3.5	136	0	170	88	.4
27...	--	--	--	--	--	--	--	--	--	--	--	--
AUG 04...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
17...	250	140	68	19	110	3.0	4.5	130	0	210	120	.6
31...	--	--	--	--	--	--	--	--	--	--	--	--
SEP 08...	--	--	--	--	--	--	--	--	--	--	--	--
21...	220	110	62	17	90	2.6	4.2	136	0	170	100	.5
DATE	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	SUS- PENDED SEDI- MENT (MG/L)	SUS- PENDED SEDI- MENT CHARGE (T/DAY)	SUS- SED. SIEVE DIAM. % FINER THAN .062 MM
OCT 21...	15	820	772	.00	.00	.13	.66	.13	--	38	102	56
NOV 02...	--	--	--	--	--	--	--	--	--	366	1290	82
14...	18	960	942	.03	.01	.19	.72	.12	--	26	32	88
DEC 09...	16	1020	943	.00	.01	1.3	1.2	.39	--	14	8.3	94
JAN 20...	16	980	997	.20	.01	1.3	1.1	.49	--	21	14	91
FEB 24...	16	864	827	.05	.01	1.3	1.9	.40	3.2	30	37	96
MAR 23...	15	882	869	.04	.01	1.4	.80	.44	--	40	15	90
APR 27...	17	1060	1030	.02	.01	.88	.72	.39	8.2	21	15	90
MAY 03...	--	--	--	--	--	--	--	--	--	811	6680	99
25...	13	986	874	.25	.01	.30	1.0	.19	--	141	343	90
JUN 22...	18	1060	1020	.00	.00	2.2	1.3	.67	6.0	6	3.1	77
JUL 15...	--	--	--	--	--	--	--	--	--	1820	37800	95
20...	9.7	524	475	.50	.01	.07	.93	.13	--	585	13100	90
27...	--	--	--	--	--	--	--	--	--	435	14400	99
AUG 04...	--	--	--	--	--	--	--	--	--	413	14600	98
12...	--	--	--	--	--	--	--	--	--	416	14200	69
17...	12	628	610	.15	.01	.16	1.7	.20	3.1	654	22200	54
31...	--	--	--	--	--	--	--	--	--	484	18300	98
SEP 08...	--	--	--	--	--	--	--	--	--	592	6870	98
21...	12	476	523	.14	.01	.06	.88	.14	--	278	5930	99

RIO GRANDE BASIN

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08475000 Rio Grande at Brownsville, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTERRER 1976

DATE	TIME	DIS- SOLVED ALUM- INUM (AL) (UG/L)	TOTAL ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)
FEB. 24...	1035	20	5	4	330	0	0	10	0	0
APR. 27...	1045	60	5	3	410	0	0	30	0	0
JUNE 22...	1110	50	5	5	360	0	0	10	0	0
AUG. 17...	1115	30	5	3	230	0	0	40	13	4

DATE	DIS- SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)
FEB. 24...	0	7	0	1100	10	3	0	40	210
APR. 27...	0	11	5	1000	40	3	0	50	170
JUNE 22...	0	4	0	250	10	0	0	50	190
AUG. 17...	0	8	2	4000	30	8	1	30	200

DATE	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	DIS- SOLVED SELE- NIUM (SE) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)
FEB. 24...	150	.0	.0	0	0	0	1500	30	0
APR. 27...	50	.2	.2	0	0	0	1900	20	20
JUNE 22...	180	1.7	.7	0	0	0	2100	40	20
AUG. 17...	10	.4	.3	0	0	0	1200	50	30

RIO GRANDE BASIN

08475000 Rio Grande at Brownsville, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTMBER 1976

DATE	TIME	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL CHLOR- DANE (UG/L)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDD (UG/L)	DDD IN BOTTOM MA- TERIAL (UG/KG)	P,P' DDD IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDE (UG/L)	DDE IN BOTTOM MA- TERIAL (UG/KG)	P,P' DDE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDT (UG/L)
OCT 21...	1600	ND	ND	ND	ND	ND	--	.1	ND	--	.1	ND
FEB 24...	1035	ND	--	ND	--	ND	--	--	ND	--	--	ND
MAY 26...	0945	ND	ND	ND	ND	ND	ND	--	ND	ND	--	ND
AUG 17...	1115	ND	--	ND	--	ND	--	--	ND	--	--	ND

DATE	DDT IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DI- AZINON (UG/L)	DI- AZINON IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DI- ELDRIN (UG/L)	DI- ELDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ETHION (UG/L)	ETHION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL HEPTA- CHLOR (UG/L)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)
OCT 21...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB 24...	--	ND	--	ND	--	ND	--	ND	--	ND	--
MAY 26...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 17...	--	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL LINDANE (UG/L)	LINDANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL MALA- THION (UG/L)	MALA- THION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL METH- OXY- CHLOR (UG/L)	METHOX- YCHLOR IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL METHYL PARA- THION (UG/L)	METHYL PARA- THION IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL METHYL TRI- THION (UG/L)
OCT 21...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB 24...	ND	--	ND	--	ND	--	ND	--	ND	--	ND
MAY 26...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 17...	ND	--	ND	--	ND	--	ND	--	ND	--	ND

DATE	METHYL TRI- THION IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL PARA- THION (UG/L)	PARA- THION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL TOX- APHENE (UG/L)	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL TRI- THION (UG/L)	TRI- THION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ATHA- ZINE (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
OCT 21...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB 24...	--	ND	--	ND	--	ND	--	ND	ND	ND	ND
MAY 26...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 17...	--	ND	--	ND	--	ND	--	ND	ND	ND	ND

RIO GRANDE BASIN

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08475000 Rio Grande at Brownsville, Tex.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	TEMPER- ATURE (DEG C)	SUS- PENDE SEDI- MENT (MG/L)	SUS- PENDE SEDI- MENT DIS- CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM
OCT								
21...	1600	990	26.5	38	102	--	--	--
NOV								
02...	1700	1300	30.0	366	1290	37	47	55
18...	1430	450	22.5	26	32	--	--	--
DEC								
09...	1130	220	19.5	14	8.3	--	--	--
JAN								
20...	1115	250	18.0	21	14	--	--	--
FEB								
24...	1035	460	17.5	30	37	--	--	--
MAR								
23...	1015	140	21.0	40	15	--	--	--
APR								
27...	1045	260	26.5	21	15	--	--	--
MAY								
03...	1830	3050	25.0	811	6680	53	68	83
25...	0945	900	27.5	141	343	--	--	--
JUN								
22...	1110	190	30.5	6	3.1	--	--	--
JUL								
15...	1845	7700	27.5	1820	37800	44	64	83
20...	1035	8300	28.0	585	13100	--	--	--
27...	1815	12300	28.5	435	14400	51	68	74
AUG								
04...	0715	13100	28.5	413	14600	47	65	71
12...	1830	12600	29.0	416	14200	42	49	57
17...	1115	12600	28.5	654	22200	--	--	--
31...	1800	14000	29.5	484	18300	61	72	82
SEP								
08...	0715	4300	30.0	592	6870	38	58	70
21...	1030	7900	28.0	278	5930	--	--	--

DATE	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. FALL DIAM. % FINER THAN .062 MM	SUS. SED. FALL DIAM. % FINER THAN .125 MM	SUS. SED. FALL DIAM. % FINER THAN .250 MM	SUS. SED. FALL DIAM. % FINER THAN .500 MM	SUS. SED. FALL DIAM. % FINER THAN 1.00 MM
OCT							
21...	--	--	56	--	--	--	--
NOV							
02...	70	79	82	85	99	100	--
18...	--	--	88	--	--	--	--
DEC							
09...	--	--	94	--	--	--	--
JAN							
20...	--	--	91	--	--	--	--
FEB							
24...	--	--	96	--	--	--	--
MAR							
23...	--	--	90	--	--	--	--
APR							
27...	--	--	90	--	--	--	--
MAY							
03...	93	98	99	99	100	--	--
25...	--	--	90	--	--	--	--
JUN							
22...	--	--	77	--	--	--	--
JUL							
15...	89	94	95	97	99	100	--
20...	--	--	90	--	--	--	--
27...	91	95	99	100	--	--	--
AUG							
04...	86	92	98	99	100	--	--
12...	63	66	69	76	89	95	100
17...	--	--	54	--	--	--	--
31...	94	97	98	99	100	--	--
SEP							
08...	85	95	98	98	99	100	--
21...	--	--	99	--	--	--	--

08475000 Rio Grande at Brownsville, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

OCT. 21, 1975 1600 HOURS

PHYTOPLANKTON 560,000 CELLS/ML

ORGANISM_NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..OCCYSTACEAE		
L ....OCCYSTIS		0
L ....TETRAEDRON		0
..SCENEDESMACEAE		
L ....SCENEDESMUS		0
L ....TETRASTRUM		0
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCACEAE		
L ....CYCLOTELLA		0
..PENNALES		
..NAVICULACEAE		
L ....NAVICULA		0
..NITZSCHIAEAE		
L ....NITZSCHIA		0
CYANOPHYTA		
..MYXOPHYCEAE		
..CHROOCOCCALES		
..CHROOCOCCACEAE		
....AGMENELLUM	79,000	14
....ANACYSTIS	21,000	4
....GOMPHOSPHAERIA	8,100	1
..OSCILLATORIALES		
..OSCILLATORIAEAE		
....ARTHROSPIRA	25,000	4
....LYNGBYA	14,000	3
D ....OSCILLATORIA	410,000	73

NOV. 18, 1975 1430 HOURS

PHYTOPLANKTON 710,000 CELLS/ML

ORGANISM_NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..OCCYSTACEAE		
L ....DICTYOSPHAERIUM	8,600	1
....SELENASTRUM		0
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..PENNALES		
..NAVICULACEAE		
L ....NAVICULA		0
..NITZSCHIAEAE		
....NITZSCHIA	6,500	1
CYANOPHYTA		
..MYXOPHYCEAE		
..CHROOCOCCALES		
..CHROOCOCCACEAE		
....AGMENELLUM		0
L ....ANACYSTIS		0
..OSCILLATORIALES		
..OSCILLATORIAEAE		
D ....OSCILLATORIA	600,000	84
....RIVULARIAEAE		
....RAPHIIDIOPSIS	95,000	13

DEC. 9, 1975 1130 HOURS

PHYTOPLANKTON 130,000 CELLS/ML

ORGANISM_NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..HYDRODICTYACEAE		0
....PEDIASTRUM		
..MICRACTINIACEAE		
....MICRACTINIUM	710	1
..OCCYSTACEAE		
....ANKISTRODESMUS		0
....DICTYOSPHAERIUM	4,300	3
....KIRCHNERIELLA		0
....OCCYSTIS	2,100	2
....TETRAEDRON		0
..SCENEDESMACEAE		
....CRUCIGENIA	1,800	1
....SCENEDESMUS	3,600	3
..TETRASTRUM		0
..ZYGEMATALES		
..DESMIDIACEAE		
....EUASTRUM		0
....STAURASTRUM		0
..ZYGEMATAEAE		
....MOUGEOTIA	1,400	1
CHRYSOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCACEAE		
....CYCLOTELLA	2,700	2
....MELOSIRA		0
..PENNALES		
..FRAGILARIACEAE		
....SYNEDRA		0
..NAVICULACEAE		
....AMPHIPRORA		0
....NAVICULA	710	1
..NITZSCHIAEAE		
....NITZSCHIA	6,400	5
CYANOPHYTA		
..MYXOPHYCEAE		
..CHROOCOCCALES		
..CHROOCOCCACEAE		
....AGMENELLUM	33,000	25
....ANACYSTIS		
....ANACYSTIS INCERTA	14,000	11
....ANACYSTIS		0
....GOMPHOSPHAERIA		0
..OSCILLATORIALES		
..NOSTOCACEAE		
....APHANIZOMENON	2,000	1
..OSCILLATORIAEAE		
....OSCILLATORIA	57,000	44
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
..EUGLENALES		
..EUGLENACEAE		
....EUGLENA		0
....TRACHELOMONAS		0
PYRRHOPHYTA		
..DINOPHYCEAE		
..PERIDINIALES		
..PERIDINIACEAE		
....PERIDINIUM		0

08475000 Rio Grande at Brownsville, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

JAN. 20, 1976 1115 HOURS

PHYTOPLANKTON 23,000 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..HYDRODICTYACEAE		
L ....PEDIASTRUM		0
..MICRACTINIACEAE		
L ....GOLENKINIA		0
..MICRACTINIUM	2,200	10
..OCCYSTACEAE		
..ANKISTRODESMUS	440	2
..DICTYOSPHAERIUM	440	2
..KIRCHNERIELLA	560	2
L ....OOCYSTIS		0
L ....TETRAEDRON		0
..SCENEDESMACEAE		
..ACTINASTRUM	440	2
..CRUCIGENIA	1,300	6
..SCENEDESMUS	2,400	11
..TETRASTRUM	890	4
CHRYSPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCACEAE		
D ....CYCLOTILLA	3,300	15
L ....MELOSIRA		0
..PENNALES		
..FRAGILARIACEAE		
L ....SYNEORA		0
..NAVICULACEAE		
L ....AMPHIPRORA		0
..NAVICULA	220	1
..NITZSCHACEAE		
..NITZSCHIA	2,400	11
..CHRYSPHYCEAE		
..CHRYSONOMADALES		
..OCHROMONADACEAE		
L ....DINOBRYON		0
CYANOPHYTA		
..MYXOPHYCEAE		
..CHROOCOCCALES		
..CHROOCOCCACEAE		
L ....AGMENELLUM		0
..ANACYSTIS	2,700	12
L ....GOMPHOSPHAERIA		0
..OSCILLATORIALES		
..OSCILLATORIA	4,900	21
EUGLENOPHYTA		
..CRYPTOPHYCEAE		
..CRYPTOMONIDALES		
..CRYPTOMONADACEAE		
L ....CRYPTOMONAS		0
..EUGLENOPHYCEAE		
..EUGLENALES		
..EUGLENACEAE		
L ....TRACHELOMONAS		0

FEB. 24, 1976 1035 HOURS

PHYTOPLANKTON 77,000 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..HYDRODICTYACEAE		
....PEDIASTRUM		0
..OCCYSTACEAE		
..ANKISTRODESMUS	1,300	2
..DICTYOSPHAERIUM		0
..FRANCEIA		0
..TETRAEDRON		0
..SCENEDESMACEAE		
..SCENEDESMUS	610	1
..TETRASTRUM	2,400	3
..ULOTRICHACEAE		
..ULOTRICHACEAE		
..GEMINELLA	14,000	17
..ZYGNEMATALES		
..DESMIDIACEAE		
..CLOSTERIUM		0
..ZYGNEMATAACEAE		
..MOUGEOTIA		0
CHRYSPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCACEAE		
..CYCLOTILLA	810	1
..MELOSIRA	410	1
..PENNALES		
..NITZSCHACEAE		
..NITZSCHIA	510	1
..CHRYSPHYCEAE		
..CHRYSONOMADALES		
..SYNURACEAE		
..SYNURA		0
CYANOPHYTA		
..MYXOPHYCEAE		
..OSCILLATORIALES		
..NOSTOCACEAE		
..ANABAEOPSIS		0
..APHANIZOMENON	2,700	4
..OSCILLATORIA		
..LYNGBYA		0
..MICROCOLEUS		0
..OSCILLATORIA	55,000	71

MAR. 23, 1976 1015 HOURS

PHYTOPLANKTON 92,000 CELLS/ML

ORGANISM NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..OCCYSTACEAE		
..ANKISTRODESMUS	510	1
..OOCYSTIS		0
..SELENASTRUM		0
..TETRAEDRON		0
..SCENEDESMACEAE		
..SCENEDESMUS	1,400	1
CHRYSPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCACEAE		
..CYCLOTILLA		0
..MELOSIRA		0
..PENNALES		
..NAVICULACEAE		
..NAVICULA	680	1
..NITZSCHACEAE		
..NITZSCHIA	12,000	13
..SURIPELLACEAE		
..SURIPELLA		0
CYANOPHYTA		
..MYXOPHYCEAE		
..CHROOCOCCALES		
..CHROOCOCCACEAE		
..AGMENELLUM		0
..ANACYSTIS	5,600	6
..GOMPHOSPHAERIA		0
..OSCILLATORIALES		
..OSCILLATORIA	45,000	49
..LYNGBYA	26,000	28
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
..EUGLENALES		
..EUGLENACEAE		
..EUGLENA		0

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

APR. 27, 1976 1045 HOURS

PHYTOPLANKTON 95,000 CELLS/ML

ORGANISM_NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..OCCYSTACEAE		
..ANKISTRODESMUS	530	1
..DICTYOSPHAERIUM	11,000	12
..SELENASTRUM	1,300	1
L ..TETRAEDRON		0
..SCENEDESMACEAE		
..SCENEDESMUS	1,900	2
CHRYCOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCACEAE		
..CYCLOTELLA	950	1
..PENNALES		
..ACHNANTHACEAE		
L ..COCCONEIS		0
..NAVICULACEAE		
..NAVICULA	630	1
..NITZSCHIA		
..NITZSCHIA	7,600	8
CYANOPHYTA		
..MYXOPHYCEAE		
..CHROOCOCCALES		
..CHROOCOCCACEAE		
..AGMENELLUM	13,000	13
..ANACYSTIS	8,900	9
..OSCILLATORIALES		
..NOSTOCACEAE		
..APHANIZOMENON	6,300	7
..OSCILLATORIA		
D ..LYNGBYA	3,300	4
D ..OSCILLATORIA	39,000	40
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
..EUGLENALES		
..EUGLENACEAE		
L ..EUGLENA		0

MAY 25, 1976 0945 HOURS

PHYTOPLANKTON 87,000 CELLS/ML

ORGANISM_NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..HYDRODICTYACEAE		
L ..PEDIASTRUM		0
..OCCYSTACEAE		
L ..ANKISTRODESMUS		0
L ..CHODATELLA		0
L ..TETRAEDRON		0
..SCENEDESMACEAE		
..CRUCIGENIA	3,400	4
..SCENEDESMUS	8,600	10
CHRYCOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCACEAE		
..CYCLOTELLA	1,200	1
L ..MELOSIRA		0
..PENNALES		
..NAVICULACEAE		
L ..AMPHIPRORA		0
L ..DIPLONEIS		0
..NAVICULA	610	1
L ..NEIDIUM		0
..NITZSCHIA		
..NITZSCHIA	2,800	3
CYANOPHYTA		
..MYXOPHYCEAE		
..CHROOCOCCALES		
..CHROOCOCCACEAE		
..AGMENELLUM	2,500	3
..ANACYSTIS		
..ANACYSTIS INCERTA	4,900	6
L ..ANACYSTIS		0
..OSCILLATORIALES		
..NOSTOCACEAE		
..ANABAENA	3,100	4
..OSCILLATORIA		
D ..OSCILLATORIA	38,000	44
D ..PHORMIDIUM	20,000	23
EUGLENOPHYTA		
..EUGLENOPHYCEAE		
..EUGLENALES		
..EUGLENACEAE		
..EUGLENA	490	1

JUNE 22, 1976 1110 HOURS

PHYTOPLANKTON 99,000 CELLS/ML

ORGANISM_NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..CHARACIACEAE		
..SCHROEDERIA		0
..HYDRODICTYACEAE		
..PEDIASTRUM		0
..MICRACTINIACEAE		
..MICRACTINIUM		0
..OCCYSTACEAE		
..ANKISTRODESMUS	870	1
..KIRCHNERIELLA	520	1
..SCENEDESMACEAE		
..CRUCIGENIA	700	1
..ULOTRICHIALES		
..MICROSPORACEAE		
..CYLINDROCAPSA	8,500	9
CHRYCOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCACEAE		
..CYCLOTELLA	700	1
..PENNALES		
..ACHNANTHACEAE		
..ACHNANTHES		0
..NITZSCHIA		
..NITZSCHIA	1,900	2
CYANOPHYTA		
..MYXOPHYCEAE		
..CHROOCOCCALES		
..CHROOCOCCACEAE		
..AGMENELLUM	1,400	1
..ANACYSTIS	3,500	4
..OSCILLATORIALES		
..NOSTOCACEAE		
..APHANIZOMENON	42,000	43
..OSCILLATORIA		
..LYNGBYA	14,000	14
..OSCILLATORIA	24,000	24

JULY 20, 1976 1035 HOURS

PHYTOPLANKTON 6,600 CELLS/ML

ORGANISM_NAME	CELLS/ML	PER_CENT
CHLOROPHYTA		
..CHLOROPHYCEAE		
..CHLOROCOCCALES		
..COELASTRACEAE		
..COELASTRUM	220	3
..OCCYSTACEAE		
..ANKISTRODESMUS	41	1
CHRYCOPHYTA		
..BACILLARIOPHYCEAE		
..CENTRALES		
..COSCINODISCACEAE		
..CYCLOTELLA	54	1
..MELOSIRA		0
..PENNALES		
..FRAGILARIACEAE		
..SYNEDRA		0
..NITZSCHIA		
..DENTICULA		0
..NITZSCHIA	140	2
CYANOPHYTA		
..MYXOPHYCEAE		
..CHROOCOCCALES		
..CHROOCOCCACEAE		
..AGMENELLUM	540	8
..ANACYSTIS	540	8
..OSCILLATORIALES		
..NOSTOCACEAE		
..ANABAENA	200	3
..OSCILLATORIA		
..LYNGBYA	1,800	27
..OSCILLATORIA	3,000	45

08475000 Rio Grande at Brownsville, Tex.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976--Continued

AUG. 17, 1976 1115 HOURS

PHYTOPLANKTON 96,000 CELLS/ML

	ORGANISM NAME	CELLS/ML	PER_CENT
	CHLOROPHYTA		
	..CHLOROPHYCEAE		
	..CHLOROCOCCALES		
	..OCCYSTACEAE		
L	....ANKISTRODESMUS		0
	....KIRCHNERIELLA	1,200	1
	....OOCYSTIS	920	1
	....QUADRIGULA	920	1
	....SCENEDESMACEAE		
L	....SCENEDESMUS		0
	CHRYSOPHYTA		
	..BACILLARIOPHYCEAE		
	..CENTRALES		
	..COSCINODISCACEAE		
L	....CYCLOTELLA		0
	..PENNALES		
	..FRAGILARIACEAE		
L	....SYNEDRA		0
	..NAVICULACEAE		
L	....NAVICULA		0
	..NITZSCHACEAE		
L	....NITZSCHIA		0
	CYANOPHYTA		
	..MYXOPHYCEAE		
	..CHROOCOCCALES		
	..CHROOCOCCACEAE		
	....AGMENELLUM	7,400	8
	....ANACYSTIS	920	1
	..OSCILLATORIALES		
	..OSCILLATORIA		
D	....LYNGBYA	59,000	61
D	....OSCILLATORIA	24,000	25

SEP. 21, 1976 1030 HOURS

PHYTOPLANKTON 590,000 CELLS/ML

	ORGANISM NAME	CELLS/ML	PER_CENT
	CHRYSOPHYTA		
	..BACILLARIOPHYCEAE		
	..CENTRALES		
	..COSCINODISCACEAE		
	....CYCLOTELLA	11,000	2
	CYANOPHYTA		
	..MYXOPHYCEAE		
	..OSCILLATORIALES		
	..NOSTOCACEAE		
	....ANABAENA	15,000	3
	..OSCILLATORIA		
	..OSCILLATORIA	560,000	95
	EUGLENOPHYTA		
	..EUGLENOPHYCEAE		
	..EUGLENALES		
	..EUGLENACEAE		
	....TRACHELUMONAS		0

RIO GRANDE BASIN

08475000 Rio Grande at Brownsville, Tex.--Continued

MONTHLY AND ANNUAL MEANS AND LOADS FOR WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

MONTH	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	DIS- SOLVED SOLIDS (MG/L)	DIS- SOLVED SOLIDS (TONS)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED CHLORIDE (TONS)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED SULFATE (TONS)	HARDNESS (CA+MG) (MG/L)
OCT. 1975.....	80563	1090	670	146000	140	31000	220	47100	290
NOV. 1975.....	15446	1440	890	37100	210	8710	280	11500	380
DEC. 1975.....	7189	1520	940	18200	220	4360	290	5610	400
JAN. 1976.....	5041	1500	930	12700	220	3020	290	3910	400
FEB. 1976.....	6853	1230	760	14100	170	3150	240	4470	330
MAR. 1976.....	5387	1360	840	12200	190	2830	260	3820	360
APR. 1976.....	9388	1470	910	23100	220	5470	280	7110	390
MAY 1976.....	20828	1470	910	50900	210	12000	280	15800	390
JUNE 1976.....	3996	1560	960	10400	230	2500	290	3180	410
JULY 1976.....	200097	919	570	308000	110	59500	190	102000	240
AUG. 1976.....	409300	994	610	679000	120	137000	200	223000	260
SEPT 1976.....	197920	948	590	313000	120	62000	190	104000	250
TOTAL	962008	**	**	1620000	**	332000	**	531000	**
WTD.AVG.	2635.64	1010	620	**	130	**	200	**	270

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	971	1310	1530	1490	1160	1430	1320	1600	1620	1020	1000	911
2	983	1300	1400	1530	1160	1420	1340	1570	1660	1120	1010	940
3	1010	1330	1490	1730	1180	1360	1360	1520	1690	1130	1040	861
4	1010	1370	1480	1650	1180	1380	1340	1220	1750	1100	1040	912
5	1010	1410	1400	1590	1180	1420	1320	1400	1750	1050	1030	1090
6	987	1440	1440	1650	1200	1410	1350	1300	1760	1000	1040	1120
7	1030	1460	1500	1530	1200	1400	1300	1300	1770	995	1030	1150
8	1010	1460	1530	1680	1180	1380	1240	1330	1730	990	1060	1120
9	1020	1470	1530	1700	1170	1410	1370	1360	1770	990	1010	1140
10	1180	1460	1390	1600	1190	1480	1330	1420	1710	980	1020	1180
11	1110	1470	1450	1650	1170	1390	1370	1480	1840	918	1030	1200
12	1160	1490	1540	1700	1210	1470	1450	1580	1840	918	1020	1250
13	1160	1500	1560	1830	1320	1410	1370	1460	1760	922	1010	911
14	1100	1510	1600	1830	1210	1400	1600	1450	1700	931	1010	914
15	1100	1530	1640	1800	1210	1380	1740	1380	1480	760	1000	918
16	1310	1540	1650	1790	1220	1380	1770	1500	1660	820	1020	1050
17	1310	1540	1550	1530	1190	1400	1700	1640	1670	827	1020	1060
18	1320	1550	1550	1700	1200	1520	1630	1640	1620	824	1010	918
19	1320	1560	1540	1810	1200	1520	1560	1690	1620	846	1010	915
20	1320	1470	1540	1260	1440	1530	1640	1690	1400	820	974	905
21	1270	1530	1530	1830	1440	1500	1600	1530	1270	839	954	876
22	1270	1570	1520	1270	1350	1450	1650	1520	1280	836	966	876
23	1400	1460	1630	1300	1280	1450	1670	1500	1290	873	936	720
24	1420	1460	1580	1390	1330	1370	1670	1470	1400	982	971	719
25	1340	1500	1510	1400	1280	1370	1630	1460	1300	991	944	835
26	1300	1500	1510	1400	1360	1230	1600	1320	1150	995	940	876
27	1290	1500	1430	1260	1430	1230	1660	1320	1170	969	911	876
28	1290	1520	1500	1200	1430	1220	1280	1540	1200	969	948	1030
29	1340	1530	1580	1220	1430	1210	1720	1540	1250	982	1060	1070
30	1320	1530	1710	1230	---	1290	1650	1600	1250	982	918	903
31	1300	---	1560	1170	---	1220	---	1620	---	1000	914	---
MONTH	1190	1480	1530	1540	1260	1390	1510	1480	1550	948	995	975

08475000 Rio Grande at Brownsville, Tex.--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	7870	640	13600	1270	150	514	445	48	58
2	6600	800	14300	1320	140	499	342	42	39
3	5560	660	9910	1220	120	395	311	28	24
4	5310	440	6310	1100	100	297	274	30	22
5	5440	340	4990	770	80	166	295	44	35
6	5670	260	3980	512	50	69	290	28	22
7	5580	200	3010	452	50	61	268	26	19
8	5050	260	3550	506	50	68	234	25	16
9	4190	240	2720	516	50	70	220	29	17
10	3370	90	819	539	50	73	250	31	21
11	2630	390	2770	508	40	55	226	30	18
12	2080	170	955	480	40	52	194	34	18
13	1870	110	555	409	40	44	164	39	17
14	1700	160	734	383	40	41	237	30	19
15	1520	160	657	350	40	38	246	26	17
16	1470	30	119	379	40	41	209	25	14
17	1370	28	104	441	40	48	159	20	8.6
18	1180	17	54	457	30	37	139	18	6.8
19	1130	17	52	388	28	29	135	18	6.6
20	1060	17	49	300	34	28	140	19	7.2
21	987	24	64	284	29	22	176	50	24
22	1100	44	131	280	26	20	152	60	25
23	1100	52	154	302	25	20	116	30	9.4
24	961	44	114	325	25	22	112	28	8.5
25	768	46	95	300	31	25	126	30	10
26	778	30	63	320	25	22	334	40	36
27	814	26	57	280	25	19	400	31	33
28	776	24	50	303	26	21	289	22	17
29	768	38	79	302	34	28	290	24	19
30	893	44	106	450	40	49	234	24	15
31	968	38	99	---	---	---	182	38	19
TOTAL	86563	---	70250	15446	---	2873	7189	---	621.1
DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	177	36	17	247	35	23	193	43	22
2	179	35	17	254	36	25	166	36	16
3	146	20	7.9	304	32	26	184	42	21
4	137	20	7.4	285	33	25	152	56	23
5	148	22	8.8	245	37	24	125	46	16
6	123	22	7.3	200	36	19	115	62	19
7	100	26	7.0	254	38	26	139	55	21
8	240	10	6.5	261	40	28	135	52	19
9	232	12	7.5	329	40	36	152	62	25
10	156	20	8.4	375	36	36	146	58	23
11	134	15	5.4	384	38	39	119	59	19
12	108	11	3.2	230	34	21	113	57	17
13	87	20	4.7	174	35	16	109	56	16
14	122	17	5.6	235	34	22	142	40	15
15	112	26	7.9	274	39	29	143	36	14
16	130	18	6.3	301	39	32	151	42	17
17	121	16	5.2	369	38	38	138	53	20
18	96	20	5.2	319	36	31	98	41	11
19	137	23	8.5	265	43	31	70	34	6.4
20	246	24	16	198	64	34	67	49	8.9
21	207	20	11	149	44	18	157	50	21
22	189	23	12	120	40	13	187	56	28
23	122	26	8.6	141	44	17	203	78	43
24	89	20	4.8	291	29	23	212	54	31
25	93	20	5.0	226	40	24	281	57	43
26	282	22	17	154	48	20	358	57	55
27	333	22	20	129	34	12	366	44	43
28	235	22	14	140	41	15	252	39	27
29	209	29	16	177	40	19	267	35	25
30	170	28	13	---	---	---	238	35	22
31	181	34	17	---	---	---	209	38	21
TOTAL	5041	---	301.2	7030	---	722	5387	---	708.3

RIO GRANDE BASIN

08475000 Rio Grande at Brownsville, Tex.--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DAY	APRIL			MAY			JUNE		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	239	34	22	971	400	1050	160	64	28
2	191	36	19	2890	780	6090	130	96	34
3	188	36	18	3360	800	7260	87	94	22
4	246	50	33	2020	450	2450	79	24	5.1
5	326	60	53	996	500	1340	94	26	6.6
6	418	86	97	653	240	423	121	36	12
7	523	56	79	504	80	109	128	36	12
8	922	75	187	426	70	81	220	20	12
9	601	50	81	378	60	61	342	28	26
10	352	96	91	345	46	43	211	27	15
11	352	210	200	273	46	34	125	46	16
12	390	51	54	201	58	31	85	50	11
13	440	46	55	175	44	21	93	40	10
14	466	78	98	164	39	17	138	38	14
15	357	47	45	276	38	28	292	16	13
16	300	48	39	237	40	26	213	22	13
17	300	48	39	186	43	22	102	26	7.2
18	310	50	42	164	56	25	59	12	1.9
19	263	52	37	218	33	19	47	13	1.6
20	224	46	28	371	32	32	44	20	2.4
21	271	30	22	415	62	69	50	28	3.8
22	226	46	28	585	68	107	143	22	8.5
23	143	56	22	1340	350	1270	231	20	12
24	155	51	21	1200	294	953	71	44	8.4
25	191	40	21	785	274	581	33	28	2.5
26	263	36	26	580	140	219	42	23	2.6
27	213	40	23	383	28	29	86	40	9.3
28	127	41	14	219	63	37	169	52	24
29	147	38	15	166	60	27	268	16	12
30	244	40	26	169	60	27	133	16	5.7
31	---	---	---	178	63	30	---	---	---
TOTAL	9388	---	1535	20828	---	22511	3996	---	351.6
DAY	JULY			AUGUST			SEPTEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	63	38	6.5	12800	510	17600	13800	470	17500
2	58	46	7.2	12900	380	13200	13700	330	12200
3	108	46	13	13100	410	14500	13500	320	11700
4	244	250	165	13100	450	15900	12300	430	14300
5	419	510	577	13000	460	16100	9490	770	19700
6	414	640	724	12900	380	13200	6800	630	11600
7	726	590	1160	12800	340	11800	5260	380	5400
8	1600	380	1640	12900	340	11800	4020	540	5860
9	2850	300	2310	13000	330	11600	3130	360	3040
10	2790	340	2560	13100	510	18000	2500	200	1350
11	2430	420	2760	12900	400	13900	2950	200	1590
12	2740	440	3260	12700	400	13700	3760	230	2330
13	3380	400	3650	12500	370	12500	4790	250	3230
14	5220	830	11700	12500	400	13500	5800	230	3600
15	7410	1640	32800	12500	360	12200	6030	660	10700
16	8700	1580	37100	12700	380	13000	5820	460	7230
17	9350	1080	27300	12600	520	17700	6180	380	6340
18	9370	850	21500	12500	380	12800	7060	620	11800
19	8890	610	14600	13200	430	15300	7670	360	7460
20	8280	560	12500	13700	770	28500	7810	310	6540
21	8010	550	11900	13600	500	18400	7910	620	13200
22	8840	480	11500	13500	530	19300	8420	870	19800
23	10300	630	17500	13600	540	19800	7580	1290	26400
24	11300	800	24400	13800	540	20100	5710	680	10500
25	11900	790	25400	13900	440	16500	5300	700	10000
26	12200	460	15200	13900	440	16500	6030	460	7490
27	12300	450	14900	13900	380	14300	5170	570	7960
28	12400	490	16400	13900	550	20600	4020	650	7060
29	12500	500	16900	13900	1190	44700	3000	700	5670
30	12600	410	13900	14000	430	16300	2410	420	2730
31	12700	350	12000	13900	450	16900	---	---	---
TOTAL	200097	---	356332.7	409300	---	520200	197920	---	274280
YEAR 962145.0			1250686						

A low-flow investigation along a watercourse involves making discharge measurements at selected sites in a given reach of a channel. In addition, discharge measurements of inflow and diversions, field commentary relative to observations, water samples and temperature, and other relevant data are collected. Measuring sites are described to the extent that they may be used in subsequent investigations. At times, temporary recording installations are used to supplement records at regular gaging stations in the study of flow trends.

In tabulating the results, the indicated gains or losses may appear incompatible because of diurnal or other flow variations, or because of small inaccuracies in open-channel measurements. These trends in a reach may vary with the seasons, because of regulation, or other factors. Successive investigations may serve to delineate a progressive change in flow trends.

COLORADO RIVER BASIN

Colorado River Low-Flow Investigations

PURPOSE.--To determine the changes in quantity and quality of low flow in this reach of the Colorado River.

REACH.--The investigations began on the Colorado River at a point 100 ft above the mouth of Bull Creek and ended at the stream-gaging station, Colorado River at Colorado City. The investigations involved a distance along the Colorado River of 35.5 miles.

PREVIOUS INVESTIGATIONS.--1968, 1975.

SUMMARY.--Three low-flow investigations were made on Nov. 13, 1975, Jan. 20, 1976, and Mar. 2, 1976. During these investigations, climatic factors were favorable for determining the gains and losses. There was no storm runoff, no known diversions from the river, and no appreciable loss could be attributed to evapotranspiration.

Location and description of data-collection sites, Colorado River and tributaries

Site No.	Stream	Location	Date	River mile	Water temp. (°C)	Discharge (ft ³ /s) Main stream	tributary	Remarks
1	Colorado River	Lat 32°34'58", long 101°05'42", 50 ft upstream from Bull Creek.	Nov. 13 Jan. 20 Mar. 2	831.8	- - -	0 0 0	- - -	Water standing in low spots.
2	Bull Creek	Lat 32°36'00", long 101°05'38", 300 ft upstream from bridge on Farm Road 2085.	Nov. 13 Jan. 20 Mar. 2	-	5.0 3.5 11.5	- - -	0.02 .04 .04	Streambed of gravel and sand. Grass and scattered trees on banks.
3	Colorado River	Lat 32°34'54", long 101°05'42", 30 ft downstream from Bull Creek.	Nov. 13 Jan. 20 Mar. 2	831.8	5.5 6.5 14.0	.07 .16 .14	- - -	Do.
4	....do.....	Lat 32°34'17", long 101°03'20", 40 ft upstream from Bluff Creek.	Nov. 13 Jan. 20 Mar. 2	828.8	13.5 4.5 -	.06 .22 .13	- - -	Streambed of gravel and sand. Grass, brush, and scattered trees on banks.
5	Bluff Creek	Lat 32°35'29", long 101°03'02", at bridge on Farm Road 1606.	Nov. 13 Jan. 20 Mar. 2	-	10.0 5.0 12.0	- - -	.10 .15 .15	Streambed of gravel and sand. Grass and scattered trees on banks.
6	....do.....	Lat 32°34'20", long 101°03'21", 150 ft upstream from mouth.	Nov. 13 Jan. 20 Mar. 2	-	13.0 5.0 -	- - -	.08 .12 .14	Streambed of coarse sand over sandstone. Grass and thin brush on banks.
7	Colorado River	Lat 32°32'18", long 101°03'12", at stream-gaging station 08119500.	Nov. 13 Jan. 20 Mar. 2	826.3	15.0 5.0 14.5	.24 .38 .36	- - -	Wide, flat sand channel with steep banks. Thick stand of salt cedars along banks.
8	....do.....	Lat 32°30'43", long 101°01'42", 30 ft upstream from Willow Creek.	Nov. 13 Jan. 20 Mar. 2	824.0	13.0 5.0 14.5	.42 .72 .53	- - -	Streambed of sand and silt. Steep banks with heavy stand of salt cedars along left bank.
9	Willow Creek	Lat 32°30'42", long 101°01'46", 300 ft upstream from mouth.	Nov. 13 Jan. 20 Mar. 2	-	13.0 4.5 15.0	- - -	.003 .03 .02	Streambed of sand. Steep grassy banks with heavy stand of brush.
10	Colorado River	Lat 32°32'25", long 100°56'54", 15 ft upstream from Canyon Creek.	Nov. 13 Jan. 20 Mar. 2	817.8	5.0 14.5 1.0 8.5 12.5 -	.38 .42 .65 .66 .31 .40	- - - - - -	Streambed of sand. Steep banks with thick stand of salt cedars.
11	Canyon Creek	Lat 32°32'26", long 100°56'53", 15 ft upstream from mouth.	Nov. 13 Jan. 20 Mar. 2	-	8.5 3.5 14.0	- - -	.37 .57 .52	Streambed of gravel and sand. Steep banks with heavy stand of brush and trees.
12	Colorado River	Lat 32°30'51", long 100°54'46", 300 ft upstream from Deep Creek.	Nov. 13 Jan. 20 Mar. 2	814.3	9.0 4.0 14.5	.84 1.21 1.11	- - -	Wide sand channel. Thick stand of salt cedars along banks.
13	Deep Creek	Lat 32°32'25", long 100°54'27", at stream-gaging station 08120500.	Nov. 13 Jan. 20 Mar. 2	-	12.0 6.0 14.5	- - -	1.46 1.57 1.68	Streambed of gravel. Steep grassy banks lined with scattered large trees.
14	....do.....	Lat 32°30'51", long 100°54'43", 70 ft upstream from mouth.	Nov. 13 Jan. 20 Mar. 2	-	10.0 4.0 14.5	- - -	2.33 2.67 2.95	Streambed of sand. Steep grassy banks with heavy stand of salt cedars.
15	Colorado River	Lat 32°28'41", long 100°56'54", at stream-gaging station 08120700.	Nov. 13 Jan. 20 Mar. 2	810.6	9.5 3.5 14.5	3.12 3.80 4.42	- - -	Wide streambed of gravel and sand. Steep banks with heavy stand of salt cedars.

Location and description of data-collection sites, Colorado River and tributaries--Continued

Site No.	Stream	Location	Date	River mile	Water temp. (°C)	Discharge (ft ³ /s)		Remarks
						Main stream	tributary	
16	Colorado River	Lat 32°26'35", long 100°56'45", 1,000 ft downstream from Cedar Bend bridge.	Nov. 13 Jan. 20 Mar. 2	804.4	12.5 5.0 16.5	3.75 4.37 4.95	- - -	Streambed of gravel. Steep banks with heavy stand of salt cedars.
17	....do.....	Lat 32°25'51", long 100°55'00", 30 ft upstream from low-water crossing 1 mile northwest of Colorado River Municipal Water District diversion station.	Nov. 13 Jan. 20 Mar. 2	802.1	16.0 7.0 17.5	3.85 4.44 4.71	- - -	Streambed of gravel. Steep banks with scattered salt cedars.
18	Bone Hollow	Lat 32°25'33", long 100°53'43", at right of private dam and 300 ft upstream from mouth.	Nov. 13 Jan. 20 Mar. 2	-	15.5 8.5 18.5	- - -	.007 .04 .03	Streambed of sandstone and shale. Scattered trees and brush.
19	CRMWD Diversion	Lat 32°25'08", long 100°54'21", at Colorado River Municipal Water District pump station.	Nov. 13 Jan. 20 Mar. 2	799.3	- - -	-- - -	0 0 0	No pumping during past week.
20	Colorado River	Lat 32 24'51", long 100 54'28", 1,500 ft downstream from Colorado River Municipal Water District diversion dam.	Nov. 13 Jan. 20 Mar. 2	798.9	17.5 7.5 18.5	6.57 7.08 0	- - -	Wide streambed of gravel over sandstone. Heavy stand of salt cedars along fairly steep banks.
21	....do.....	Lat 32 23'33", long 100 52'42", at stream-gaging station 08121000.	Nov. 13 Jan. 20 Mar. 2	796.3	14.5 9.5 18.5	6.92 .16 .19	- - -	Streambed of gravel with heavy stand of salt cedars.

STREAMFLOW AND WATER-QUALITY DATA FOR THE COLORADO RIVER AND TRIBUTARIES, NOVEMBER 13, 1975

SITE	STREAM	DISCHARGE (FT ³ /S)	DIS-SOLVED SILICA (SiO ₂) (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED POTASSIUM (P) (MG/L)	a/ BICARBONATE (HCO ₃) (MG/L)	DIS-SOLVED SULFATE (SO ₄) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	HARDNESS (CA, MG)	NON-CARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)
1	Colorado River	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	Bull Creek	.02	2.7	160	41	350	7.4	176	210	690	0.2	1550	570	420	2710	7.8
3	Colorado River	.07	3.5	320	100	2300	9.0	236	1200	3300	.7	7350	1200	1000	11900	7.9
4	.....do.....	.06	1.2	180	55	1700	10	112	460	2700	.3	5160	680	580	8640	8.0
5	Bluff Creek	.10	7.3	200	54	230	5.5	244	520	340	.5	1480	720	520	2190	7.9
6	.....do.....	.08	2.2	150	46	450	7.0	184	470	640	.3	1860	560	410	3070	8.1
7	Colorado River	.24	7.9	260	84	2600	9.6	198	650	4000	.8	7710	1000	830	12700	8.1
8	.....do.....	.42	.3	270	95	1900	8.6	172	850	2900	.5	6110	1100	920	10400	8.1
9	Willow Creek	.003	7.1	300	94	1700	8.6	424	880	2400	.8	5600	1100	790	9110	7.7
10	Colorado River	.42	2.5	280	95	1700	8.8	170	750	2700	.4	5620	1100	950	9320	8.0
11	Canyon Creek	.37	6.3	100	48	190	6.6	280	340	200	.5	1030	450	220	1630	8.0
12	Colorado River	.84	2.5	220	81	1100	8.0	220	690	1700	.4	3920	910	730	6630	8.1
13	Deep Creek	1.5	9.0	70	15	88	7.9	216	93	110	.7	506	240	59	858	8.0
14	.....do.....	2.3	9.2	120	59	280	10	290	520	270	1.0	1410	540	300	2230	8.0
15	Colorado River	3.1	4.4	160	69	660	10	272	540	950	.9	2530	680	460	4130	8.3
16	.....do.....	3.8	4.2	190	76	820	10	264	580	1200	.8	3010	790	570	4870	8.6
17	.....do.....	3.8	3.3	220	74	880	10	240	590	1400	.7	3300	850	660	5270	8.6
18	Bone Hollow	.007	.4	130	64	160	11	130	540	170	.3	1140	590	480	1770	8.3
19	Diversion b/	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	Colorado River	6.6	7.5	220	78	1300	8.2	236	650	2000	.7	4380	870	680	7490	8.3
21	.....do.....	6.9	6.7	230	80	1300	7.6	228	670	2000	.7	4410	900	720	7570	8.3

a/ Includes the equivalent of any carbonate (CO₃) present.

b/ No pumping during past week.

STREAMFLOW AND WATER-QUALITY DATA FOR THE COLORADO RIVER AND TRIBUTARIES, JANUARY 20, 1976

SITE	STREAM	DISCHARGE (FT ³ /S)	DIS- SOLVED SILICA (SiO ₂) (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAGNE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	DIS- SOLVED POTAS- SIUM (P) (MG/L)	a/ BICAR- BONATE (HCO ₃) (MG/L)	DIS- SOLVED SUL- FATE (SO ₄) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	PH (UNITS)
1	Colorado River	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	Bull Creek	.04	1.8	280	110	680	6.0	356	480	1300	0.4	3030	1200	860	5220	7.8
3	Colorado River	.16	2.6	370	160	2500	10	336	1400	3700	1.1	8310	1600	1300	13600	7.8
4	.....do.....	.22	.1	400	190	3800	12	248	1700	5700	.9	11900	1800	1600	19400	7.9
5	Bluff Creek	.15	8.4	230	76	275	4.3	298	680	380	.7	1800	890	640	2740	8.0
6	.....do.....	.12	5.8	240	91	480	4.4	260	830	690	.5	2470	970	760	3700	7.8
7	Colorado River	.38	3.7	390	160	4000	12	244	1400	6100	.8	12200	1600	1400	20100	7.9
8	.....do.....	.72	.6	400	170	3500	11	240	1500	5300	.7	11000	1700	1500	17600	7.9
9	Willow Creek	.03	.8	150	64	1300	4.1	460	1000	1500	1.6	4250	640	260	6690	8.2
10	Colorado River	.65	.9	400	170	3200	11	232	1400	4900	.9	10200	1700	1500	16800	7.8
11	Canyon Creek	.57	2.1	210	140	540	3.8	404	1200	530	.9	2830	1100	770	3930	7.9
12	Colorado River	1.2	.5	340	170	2200	8.5	300	1300	3300	.7	7470	1600	1300	11900	7.8
13	Deep Creek	1.6	9.0	94	23	150	10	292	180	170	1.8	782	330	90	1380	7.5
14	.....do.....	2.7	4.2	150	67	290	10	320	610	260	1.4	1550	650	390	2350	7.7
15	Colorado River	3.8	1.3	220	100	910	10	336	810	1300	1.3	3520	960	690	5860	7.9
16	.....do.....	4.4	.3	240	110	1100	10	340	880	1500	1.2	4010	1100	770	6480	8.2
17	.....do.....	4.4	.3	250	110	1100	9.7	340	950	1500	1.2	4090	1100	800	6610	8.4
18	Bone Hollow	.04	.2	230	130	330	10	228	1100	340	.6	2250	1100	920	3100	8.1
19	Diversion b/	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	Colorado River	.08	2.3	1100	390	14000	35	162	3500	22000	.9	41100	4400	4200	60600	7.3
21	.....do.....	.16	1.2	340	200	2500	11	328	1800	3500	.9	8510	1700	1400	13500	7.7

a/ Includes the equivalent of any carbonate (CO₃) present.

b/ No pumping during past week.

STREAMFLOW AND WATER-QUALITY DATA FOR THE COLORADO RIVER AND TRIBUTARIES, MAR. 2, 1976

SITE	STREAM	DISCHARGE (FT ³ /S)	DIS- SOLVED SILICA (SiO ₂) (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAGNE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	DIS- SOLVED POTAS- SIUM (P) (MG/L)	a/ BICAR- BONATE (HCO ₃) (MG/L)	DIS- SOLVED SUL- FATE (SO ₄) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	SPECIFIC CONDUCT- ANCE (MICRO- MHOS)	PH (UNITS)
1	Colorado River	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	Bull Creek	.04	1.4	330	150	900	7.0	276	700	1700	-	3920	1400	1200	6730	7.6
3	Colorado	.14	3.0	410	180	3100	11	280	1700	4600	-	10100	1800	1500	16400	7.6
4	.....do.....	.13	.1	490	250	5900	18	160	2500	8700	-	17900	2300	2100	27500	7.6
5	Bluff Creek	.15	3.9	230	87	340	4.5	252	760	460	0.7	2010	930	730	2960	7.9
6	.....do.....	.14	.4	280	110	520	5.8	220	970	770	.5	2770	1200	970	4410	7.9
7	Colorado River	.36	5.1	440	200	5000	17	212	1800	7600	-	15200	1900	1700	24000	7.8
8	.....do.....	.53	.1	450	200	4500	16	192	2100	6600	-	14000	1900	1800	21700	7.6
9	Willow Creek	.02	.3	160	83	1500	4.5	402	1200	1700	-	4850	740	410	7880	8.0
10	Colorado River	.31	.6	480	220	4300	16	180	2000	6600	-	13700	2100	2000	21400	7.6
11	Canyon Creek	.52	1.8	200	150	520	3.5	382	1200	490	1.1	2750	1100	800	3880	8.0
12	Colorado River	1.1	.8	340	180	2100	9.0	288	1400	3100	-	7270	1600	1400	11700	7.8
13	Deep Creek	1.7	22	89	23	200	14	336	190	190	1.9	896	320	41	1520	7.4
14	.....do.....	3.0	14	140	68	280	11	336	620	250	1.4	1550	630	350	2340	8.3
15	Colorado River	4.4	3.0	210	110	860	13	340	860	1200	-	3420	980	700	5450	8.3
16	.....do.....	5.0	.2	240	130	1000	12	332	1000	1400	-	3950	1100	860	6380	8.3
17	.....do.....	4.7	.1	250	130	1300	17	292	1100	1900	-	4840	1200	920	7540	8.3
18	Bone Hollow	.03	.1	260	170	410	11	220	1400	460	.8	2820	1400	1200	3800	7.9
19	Diversion b/	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	Colorado River	c/0	2.1	1100	390	15000	36	104	3700	24000	-	44300	4400	4300	61700	6.8
21	.....do.....	.19	.9	460	220	2400	13	226	2100	3500	-	8810	2100	1900	12700	7.5

a/ Includes the equivalent of any carbonate (CO₃) present.

b/ Pump operating between 0730 and 0930 this day.

c/ Sample collected from seep 1500 ft downstream from diversion dam; water being pumped back over dam to Colorado River Municipal Water District diversion pool at the rate of 0.04 ft³/min.

Because the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than continuous stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage of those events. The data collected for special reasons are called measurements at miscellaneous sites.

Streamflow data collected at partial-record stations where water-quality data other than observations of water temperature are not obtained are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations; the second is a table of annual maximum stage and (or) discharge at crest-stage stations. Discharge measurements made at miscellaneous sites for both low and high flows are given in a third table. Discharge measurements and water-quality data collected at partial-record stations are presented in downstream order in the section of this report entitled "Gaging-station records."

Low-flow partial-record stations

Measurements of streamflow at low-flow partial-record stations that are not published in the gaging-station section are given in the following table. Most of the measurements of low flow were made during periods when streamflow was sustained primarily by ground-water discharge. These measurements, when correlated with the simultaneous discharge of a nearby stream where continuous records are available, will indicate the low-flow potential of the stream. The years listed in the column headed "Period of record" identifies the water years in which measurements were made at the same or at practically the same site.

Discharge measurements made at low-flow partial-record stations during water year 1976

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
Colorado River basin						
08129500	Dove Creek Spring near Knickerbocker, Tex.	Lat 31°11'06", long 100°43'51", Irion County, at headquarters ranchhouse, 500 ft upstream from Dove Creek, 1.8 miles upstream from Stilson Dam on Dove Creek, and 8.5 miles southwest of Knickerbocker.	(c)	1944-58*, 1959-76	10-15-75 11-25-75 1- 6-76 2- 9-76 3-24-76 5- 6-76 6-16-76 7-27-76	23 36 36 32 29 28 28 34
08131300	South Concho River above Pecan Creek near San Angelo, Tex.	Lat 31°20'13", long 100°28'46", Tom Green County, 1,000 ft upstream from Pecan Creek and about 9 miles south of San Angelo.	(c)	1963-76	10-15-75 11-25-75 1- 8-76 2-10-76 3-25-76 5- 7-76 6-16-76 7-29-76	7.7 11 9.6 11 10 11 8.6 8.3
08143900	Springs at Fort McKavett, Tex.	Lat 30°50'03", long 100°05'37", Menard County, at Fort McKavett.	(c)	1902, 1905, 1922, 1942, 1948-49, 1951-52, 1955-56, 1958-76	1- 8-76 8- 5-76	36 30
08146500	San Saba Springs at San Saba, Tex.	Lat 31°11'44", long 98°42'42", San Saba County, 150 ft upstream from bridge on U.S. Highway 190 at San Saba and 0.8 mile east of courthouse.	(c)	1939, 1952, 1957, 1959-76	11-18-75 2-18-76 8- 3-76	9.3 7.9 12
08149400	South Llano River near Telegraph, Tex.	Lat 30°15'43", long 99°56'01", Edwards County, 3.7 miles upstream from Paint Creek, 5.7 miles south of Telegraph, and 18.7 miles southwest of Junction.	(c)	1939, 1952, 1956, 1959-76	1- 8-76 8- 5-76	33 32
08149500	Seven Hundred Springs near Telegraph, Tex.	Lat 30°16'12", long 99°55'22", Edwards County, about 3 miles upstream from Paint Creek, about 5 miles south of Telegraph, and about 18 miles southwest of Junction.	(c)	1939, 1952, 1955-56, 1959-76	1- 8-76 8- 5-76	25 20
08155400	Barton Creek above Barton Springs at Austin, Tex.	Lat 30°15'48", long 97°46'19", Travis County, just upstream from upper dam of Barton Creek swimming pool in Zilker Park and upstream from all springs known as Barton Springs at Austin.	125	1919-76	11- 3-75 1- 6-76 2-24-76 9- 7-76	1.4 .48 0 .03
08155500	Barton Springs at Austin, Tex.	Lat 30°15'49", long 97°46'02", Travis County, in Zilker Park just below the lowest dam at Austin.	(c)	1895-1916, 1917-18*, 1919-76	11- 3-75 1- 6-76 2-24-76 9- 7-76	86 66 56 89
08168000	Hueco Springs near New Braunfels, Tex.	Lat 29°45'31", long 98°08'34", Comal County, two springs located 200 ft and 400 ft west of the Guadalupe River, 0.3 mile upstream from mouth of Elm Creek, and 4.2 miles north of New Braunfels.	(c)	1944-76	10-21-75 11-28-75 1- 8-76 2-19-76 3-29-76 5- 4-76 6-14-76 7-20-76 8-31-76	23 16 14 11 10 75 94 80 38

* Operated as a continuous-record station.

c Not applicable.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at low-flow partial-record stations during water year 1976--Continued

Discharge measurements made at low-flow partial-record stations during water year 1976--continued						
Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
Guadalupe River basin--Continued						
08168600	Bliefers Creek at New Braunfels, Tex.	Lat 29°43'14", long 98°07'23", Comal County, at Grove Avenue crossing in northwest New Braunfels and 0.25 mile upstream from mouth.	-	1962-76	1- 8-76 7-20-76	0 0
08168700	Panther Canyon at New Braunfels, Tex.	Lat 29°42'47", long 98°08'14", Comal County, at Landa Park Drive crossing in Landa Park at New Braunfels.	-	1962-76	1- 8-76 7-21-76	0 0
08168800	Dry Comal Creek at New Braunfels, Tex.	Lat 29°41'52", long 98°08'11", Comal County, at Floral Avenue crossing in New Braunfels, 0.6 mile upstream from Missouri Pacific Railroad Company bridge, and 0.9 mile upstream from mouth.	-	1962-76	1- 8-76 7-20-76	.70 6.7
Nueces River basin						
08204000	Leona River spring flow near Uvalde, Tex.	Lat 29°09'10", long 99°44'30", Uvalde County, at old road crossing on White's Ranch, 2.0 miles downstream from Cooks Slough, and 4.7 miles southeast of Uvalde.	(c)	1939-65+, 1966-76	10-29-75 11-25-75 12-29-75 1-27-76 2-26-76 3-26-76 5- 4-76 6-29-76 7-27-76 8-24-76 9-30-76	f48 f47 f44 f31 f28 f29 f49 f25 f59 f47 f62
Rio Grande basin						
08407600	Smith Spring in Guadalupe Mountain National Park near Salt Flat, Tex.	Lat 31°55'09", long 104°48'25", Hudspeth County, at end of Smith Canyon Road north of Frijole Ranch, 1.8 miles north of U.S. Highways 62 and 180, 1.9 miles north of Pine Spring, and 21 miles northeast of Salt Flat.	-	1969-76	1-31-76 2-28-76 3-13-76	.06 .07 .06
08425500	Phantom Lake Spring near Toyahvale, Tex.	Lat 30°56'01", long 103°50'43", Jeff Davis County, 375 ft downstream from source of spring, 3.5 miles southwest of Toyahvale, and 7.0 miles southwest of Balmorhea.	(c)	1931-33+, 1942-66+, 1967-76	10-22-75 12- 3-75 1- 7-76 2-11-76 3-24-76 5- 5-76 6- 9-76 7-21-76 9- 1-76	5.7 5.5 4.9 4.9 4.8 4.3 4.4 5.1 4.7
08427000	Giffin Springs at Toyahvale, Tex.	Lat 30°56'51", long 103°47'19", Reeves County, 2,000 ft northwest of Post Office in Toyahvale.	(c)	1919, 1922-23, 1925, 1932-33+, 1941-76	1- 7-76 7-21-76	3.2 4.3
08427500	San Solomon Springs at Toyahvale, Tex.	Lat 30°56'34", long 103°47'16", Reeves County, on South Canal at Toyahvale, 540 ft downstream from headgate at pool of springs, and 4.0 miles southwest of Balmorhea.	(c)	1931-33+, 1941-65+, 1966-76	10-22-75 2-11-76 3-24-76 5- 5-76 6- 9-76 7-21-76 9- 1-76	28 30 27 28 26 31 30
08444500	Comanche Springs at Fort Stockton, Tex.	Lat 30°53'20", long 102°51'59", Pecos County, on outlet canal of Pecos County Water Improvement District No. 1 in Fort Stockton, 0.2 mile upstream from bridge on U.S. Highway 290, and 0.5 mile downstream from head of springs.	(c)	1899- 1935, 1936-64+, 1965-76	1- 7-76 7-21-76	0 0
08456300 k/	Las Moras Springs at Brackettville, Tex.	Lat 29°18'33", long 100°25'13", Kinney County, in springflow pool at Brackettville, 160 ft south of U.S. Highway 90, and 1,550 ft upstream from bridge on Brackettville-Fort Clark Road.	(c)	1896, 1899- 1900, 1902, 1904-6, 1910, 1912, 1925, 1928, 1951-76	10-14-75 11-11-75 12- 9-75 1-13-76 2-10-76 3- 9-76 4-20-76 5-18-76 6- 8-76 7-21-76 8-19-76 9-14-76	15 14 12 7.5 7.5 3.4 9.0 23 18 54 42 39

+ Operated as a continuous-record station.

c Not applicable.

f Cooks Slough measurements included in total.

k Records for the current year were furnished by International Boundary and Water Commission.

Crest-stage partial-record stations

The following table contains annual maximum stage and (or) discharge at partial-record stations operated primarily for the purpose of defining the flooding characteristics of the streams. At stations where discharge is given, or is footnoted "to be determined", a stage-discharge relation has been, or will be, defined by discharge measurements obtained by current meter or by indirect procedures. Water-stage recorders are located at these flood-hydrograph stations to facilitate complete hydrograph definition. At stations where only the maximum stage is given (discharge column is dashed), data are generally collected for use in stage-frequency studies or flood-profile definition. Gages at these stations usually consist of a device that will register the peak stage occurring between inspections of the gage. The years used in the column "Period of record" identify the years in which the annual maximum has been determined.

Annual maximum stage and (or) discharge during water year 1976							
Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
Colorado River basin							
08155200	Barton Creek at State Highway 71 near Oak Hill, Tex.	Lat 30°17'46", long 97°55'31", Travis County, at downstream side of bridge on State Highway 71, 0.1 mile downstream from Little Barton Creek, and 5.8 miles northwest of Oak Hill.	89.7	1975-76	4-18-76	11.56	4,750
08155550	West Bouldin Creek at Riverside Drive, Austin, Tex.	Lat 30°15'49", long 97°45'17", Travis County, on downstream side of eastbound bridge on Riverside Drive in Austin.	3.12	1975-76	5- 7-76	1.97	989
08156650	Shoal Creek at Steck Avenue, Austin, Tex.	Lat 30°21'55", long 97°44'11", Travis County, on downstream side of bridge on Steck Avenue in Austin.	e3.19	1975-76	4-18-76	3.04	563
08156750	Shoal Creek at White Rock Drive, Austin, Tex.	Lat 30°20'21", long 97°44'50", Travis County, on downstream side of bridge on White Rock Drive in Austin.	7.56	1975-76	4-18-76	9.45	1,160
08156800	Shoal Creek at 12th Street, Austin, Tex.	Lat 30°16'35", long 97°45'00", Travis County, on downstream side of bridge on 12th Street in Austin.	12.3	1975-76	4-18-76	10.08	1,670
08158050	Boggy Creek at U.S. Highway 183, Austin, Tex.	Lat 30°15'47", long 97°40'20", Travis County, on downstream side of northbound bridge on U.S. Highway 183 in Austin.	13.1	1975-76	4-18-76	12.28	2,490
08158100	Walnut Creek at Farm Road 1325 near Austin, Tex.	Lat 30°24'35", long 97°42'41", Travis County, on downstream side of bridge on Farm Road 1325 and 9.5 miles north of the State Capitol building in Austin.	12.6	1975-76	4-18-76	6.63	533
08158200	Walnut Creek at Dessau Road, Austin, Tex.	Lat 30°22'30", long 97°39'37", Travis County, on downstream side of bridge on Dessau Road and 8.4 miles northeast of the State Capitol building in Austin.	26.2	1975-76	4-18-76	9.75	1,610
08158400	Little Walnut Creek at Interstate Highway 35, Austin, Tex.	Lat 30°20'57", long 97°41'34", Travis County, on downstream frontage road bridge on Interstate Highway 35 in Austin.	5.57	1975-76	5-25-76	4.70	1,990
08158500	Little Walnut Creek at Manor Road, Austin, Tex.	Lat 30°18'34", long 97°40'04", Travis County, on downstream side of bridge on Manor Road in Austin.	12.1	1975-76	5-25-76	8.74	1,940
08158880	Boggy Creek (South) at Circle S Road, Austin, Tex.	Lat 30°10'50", long 97°46'55", Travis County, on downstream side of bridge on Circle S Road in Austin.	3.58	1976	5- 7-76	7.01	*1,250
08158930	Williamson Creek at Manchaca Road, Austin, Tex.	Lat 30°13'16", long 97°47'36", Travis County, on downstream side of bridge on Manchaca Road in Austin.	19.0	1975-76	4-18-76	9.07	2,960
Guadalupe River basin							
08169500	Guadalupe River at New Braunfels, Tex.	Lat 29°41'52", long 98°06'23", Comal County, at Comal Mills in New Braunfels and 0.4 mile upstream from Interstate Highway 35.	1,652	1898-1902, 1915-27*, 1974-76	5- 7-76	13.17	8,300
08177900	San Antonio River at Navarro Street, San Antonio, Tex.	Lat 29°25'50", long 98°29'24", Bexar County, at bridge on Navarro Street in San Antonio.	-	1973-76	5-20-76	d643.46	-
08178100	San Pedro Creek at Santa Rosa Street, San Antonio, Tex.	Lat 29°25'51", long 98°29'49", Bexar County, at bridge on Santa Rosa Street in San Antonio.	-	1973-76	5- 7-76	d643.77	-
08178350	Martínez Creek at Fredericksburg Road, San Antonio, Tex.	Lat 29°27'22", long 98°31'04", Bexar County, at bridge on Fredericksburg Road in San Antonio.	-	1973-76	7-14-76	d682.88	-

* For the period April to September.

* Operated as a continuous-record station.

d Datum of gage at mean sea level.

e Revised.

Annual maximum stage and (or) discharge during water year 1976--Continued							
Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (cfs)
Guadalupe River basin--Continued							
08178400	Alazan Creek at West Martin Street, San Antonio, Tex.	Lat 29°25'51", long 98°30'51", Bexar County, at bridge on West Martin Street in San Antonio.	-	1973-76	8-29-76	d639.10	-
08178450	Apache Creek at South Zarzamora Street, San Antonio, Tex.	Lat 29°24'47", long 98°31'42", Bexar County, at bridge on South Zarzamora Street in San Antonio.	-	1973-76	5- 7-76	d632.65	-
08178500	San Pedro Creek at Furnish Street, San Antonio, Tex.	Lat 29°24'22", long 98°30'38", Bexar County, at bridge on Furnish Street in San Antonio.	-	1973-76	5- 7-76	d605.59	-
08178550	San Antonio River at Ashley Street (Berg's Mill), San Antonio, Tex.	Lat 29°20'04", long 98°27'20", Bexar County, at bridge on Ashley Street in San Antonio.	-	1973-76	5- 7-76	d519.29	-
08178720	Salado Creek at Rittiman Road, San Antonio, Tex.	Lat 29°29'05", long 98°24'59", Bexar County, at bridge on Rittiman Road in San Antonio.	-	1968-76	5- 7-76	d660.40	-
08178740	Salado Creek at East Houston Street, San Antonio, Tex.	Lat 29°25'27", long 98°25'55", Bexar County, at bridge on East Houston Street in San Antonio.	-	1969-76	5- 7-76	d605.95	-
08178760	Salado Creek at U.S. Highway 87, San Antonio, Tex.	Lat 29°23'53", long 98°25'35", Bexar County, at bridge on U.S. Highway 87 in San Antonio.	-	1969-76	5- 7-76	d583.02	-
08178780	Salado Creek at Southcross Boulevard, San Antonio, Tex.	Lat 29°22'28", long 98°25'32", Bexar County, at bridge on Southcross Boulevard in San Antonio.	-	1969-76	5- 7-76	d557.18	-
Nueces River basin							
08207300	Atascosa River at U.S. Highway 281, Pleasanton, Tex.	Lat 28°57'44", long 98°28'51", Atascosa County, at bridge on U.S. Highway 281 in Pleasanton.	-	1973-76	5- 7-76	d343.88	-
San Fernando Creek basin							
08212300	Tranquitas Creek at Kingsville, Tex.	Lat 27°31'33", long 97°52'02", Kleberg County, at bridge on U.S. Highway 77 Business Route in Kingsville, 4.9 miles above San Fernando Creek, and 5.9 miles downstream from Tranquitas Dam.	48.5	1965-76	4-20-76	5.42	-

d Datum of gage is at mean sea level.

Measurements of streamflow at points other than gaging stations of partial-record stations are given in the following table:

Discharge measurements made at miscellaneous sites during water year 1976						
Stream	Tributary to	Location	Discharge area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Colorado River basin						
Lower Colorado River Authority's Lane City Canal	Colorado River (Diversion)	Lat 29°12'00", long 96°03'19", Wharton County, 1.8 miles southwest of Lane City, Tex.	-	1918, 1962-65, 1968-69	10- 7-75 2- 5-76	128 142
Guadalupe River basin						
Olmos Creek	San Antonio River	Lat 29°29'06", long 98°29'49", Bexar County, at Devine Road above Olmos Park at San Antonio, Tex.	-	1974-75	9-16-76	.11
San Antonio Springs	.....do.....	Lat 29°27'56", long 98°28'04", Bexar County, just above Hildebrand Street in San Antonio, Tex.	-	1951-52, 1959-62, 1972, 1974-75	9-16-76	f23
San Pedro Springs	San Pedro Creek	Lat 29°26'42", long 98°30'06", Bexar County, at San Pedro Park in San Antonio, Tex.	-	1933-35, 1951-52, 1958-61, 1966, 1971, 1974-75	9-16-76	6.5
Rio Grande basin						
Mud Springs 1/	Mud Creek	Lat 29°27'10", long 100°37'30", Kinney County, on Mays Ranch and about 16 miles northwest of Brackettville, Tex.	-	1939-41, 1952-53, 1962, 1965-75	10-14-75 11-11-75 12- 9-75 1-13-76 2-10-76 3- 9-76 4-20-76 5-18-76 6- 8-76 8-19-76 9-14-76	9.2 9.2 7.9 6.5 4.8 3.6 2.9 3.4 3.3 27 24
Pinto Springs 1/	Pinto Creek	Lat 29°24'10", long 100°27'15", Kinney County, on C. C. Belcher Ranch and 7.5 miles northwest of Brackettville, Tex.	-	1939-41, 1952-53, 1965-75	10-14-75 11-11-75 12- 9-75 1-13-76 2-10-76 3- 9-76 5-18-76 6- 8-76 8-19-76 9-14-76	1.0 1.6 0 0 0 0 0 0 24 30

1/ Measurements by International Boundary and Water Commission.

f Includes flow from Olmos Creek.

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FACTORS FOR CONVERTING ENGLISH UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the English units published herein to the International System of Units (SI). Subsequent reports will contain both the English and SI unit equivalents in the station manuscript descriptions until such time that all data will be published in SI units.

Multiply English units	By	To obtain SI units
<i>Length</i>		
inches (in)	2.54×10^1	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^0	kilometers (km)
<i>Area</i>		
acres	4.047×10^3	square meters (m ²)
	4.047×10^{-1}	*hectares (ha)
	4.047×10^{-1}	square hectometers (hm ²)
	4.047×10^{-3}	square kilometers (km ²)
square miles (mi ²)	2.590×10^0	square kilometers (km ²)
<i>Volume</i>		
gallons (gal)	3.785×10^0	**liters (l)
	3.785×10^0	cubic decimeters (dm ³)
	3.785×10^{-3}	cubic meters (m ³)
million gallons (10 ⁶ gal)	3.785×10^3	cubic meters (m ³)
	3.785×10^{-3}	cubic hectometers (hm ³)
cubic feet (ft ³)	2.832×10^1	cubic decimeters (dm ³)
	2.832×10^{-2}	cubic meters (m ³)
cfs-days [(ft ³ /s) · d]	2.447×10^3	cubic meters (m ³)
	2.447×10^{-3}	cubic hectometers (hm ³)
acre-feet (acre-ft)	1.233×10^3	cubic meters (m ³)
	1.233×10^{-3}	cubic hectometers (hm ³)
	1.233×10^{-6}	cubic kilometers (km ³)
<i>Flow</i>		
cubic feet per second (ft ³ /s)	2.832×10^1	liters per second (l/s)
	2.832×10^1	cubic decimeters per second (dm ³ /s)
	2.832×10^{-2}	cubic meters per second (m ³ /s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (l/s)
	6.309×10^{-2}	cubic decimeters per second (dm ³ /s)
	6.309×10^{-5}	cubic meters per second (m ³ /s)
million gallons per day (mgal/d)	4.381×10^1	cubic decimeters per second (dm ³ /s)
	4.381×10^{-2}	cubic meters per second (m ³ /s)
<i>Mass</i>		
tons (short)	9.072×10^{-1}	tonnes (t)

*The unit hectare is approved for use with the International System (SI) for a limited time. See NBS Special Bulletin 330, p.15, 1972 edition.

**The unit liter is accepted for use with the International System (SI). See NBS Special Bulletin 330, p. 13, 1972 edition.

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